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LA CORTE DEI CONTI: L'ASPETTO POLITICO-ECONOMICO

di
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A. INTRODUZIONE

Le indicazioni della Corte dei Conti, organo preposto alla verifica contabile della gestione del pubblico denaro (Consacchi e Brunati, 1980, p. 265), sono essenziali per il controllo politico del Parlamento sull'opera dell'Esecutivo (Ministeri e rispettive amministrazioni). Infatti l'interesse parlamentare per il riscontro della Corte è crescente.

Tenuto conto che il controllo della contabilità pubblica (anche nell'ottica del risanamento della finanza pubblica) costituisce un'attività di particolare rilievo, una ricca letteratura è andata creandosi sulla Corte, sia per ciò che attiene alla sua evoluzione storica (Sandulli, 1980) sia per gli aspetti giuridici (Italia, Spina e Cutrera, 1988) ed economici (Rosen, 1982; Backhaus, 1993).

Oggetto di attenta analisi sono anche i rapporti con altre istituzioni con funzioni parzialmente simili (per la funzione di controllo, il rapporto con la Ragioneria Generale; per la funzione giurisdizionale, quello con l'autorità giudiziaria ordinaria).

L'utilità e la necessità della Corte sono indubbie. Dall'esame della realtà storica risulta tuttavia che la Corte stessa può talvolta creare distorsioni. Finora trascurate nella letteratura, queste ultime derivano dalle vigenti condizioni istituzionali. L'analisi delle possibili distorsioni riveste ancor maggiore importanza in vista della prevista riforma della Corte dei Conti, che dovrebbe prevedere per essa nuovi compiti e responsabilità più ampie [1].

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* Università di Zurigo.

Ringraziamo Beat Gygi, Beat Heggli, Werner Pommerehne e Hannelore Weck-Hannemann per critiche e consigli.

[1] Cfr. CORTE DEI CONTI (1988, Volume 4, p. 4: Controllo delle autonomie locali, sulle università degli studi e sulle conseguenze finanziarie).

La seguente analisi si basa sui concetti della Nuova Economia Politica (Bernholz e Breyer, 1984; Mueller, 1989) e della Politica Economica Democratica (Buchanan, 1977; Brennan e Buchanan, 1980; Frey, 1983).

B. Fondamenti Istituzionali

1. *Strutture organizzative*

A seconda delle sue diverse funzioni esistono varie strutture organizzative coerenti con le finalità di questo supremo organo di controllo dell'Esecutivo. La procedura per la scelta dei membri della Corte, le competenze, il tipo di controllo e la (de-)centralizzazione sono largamente discussi nella letteratura.

In generale si distinguono quattro possibili forme di controllo dell'attività pubblica. La Corte può essere assegnata a uno dei tre poteri fondamentali dello Stato, conformemente alla classificazione del Montesquieu (potere legislativo, esecutivo, giudiziario) o divenire potere a sé stante (essendo la Corte giuridicamente autonoma) in posizione di assoluta indipendenza rispetto alla Pubblica Amministrazione.

Tuttavia queste classificazioni possono essere operate solo per grandi linee e tenendo comunque conto delle funzioni che i rispettivi ordinamenti nazionali affidano loro. Nella realtà concreta non troviamo mai categorizzazioni rigide e a seconda dell'importanza attribuita dalle stesse legislazioni ai diversi tipi di controllo variano le posizioni dottrinarie circa la loro natura.

Per quel che riguarda ad esempio l'Italia, il Lavagna (1979, p. 1044) indica come essenziali le seguenti attività della Corte dei Conti:

a) funzioni di controllo preventivo e/o successivo.

Lo scopo è di accertare il rispetto della legge di bilancio nonché delle norme di legge sugli atti di Governo e sui bilanci degli enti pubblici (controllo finanziario e di legittimità).

b) funzioni giuridiche.

La Corte è chiamata a giudicare, in via esclusiva, in materia di contabilità pubblica e pensioni.

La finalità riconosciutale di favorire il perseguimento dei fini istituzionali sia dell'organo legislativo sia di quello esecutivo, accentua l'autonomia funzionale di organo, che risulta indipendente da entrambi. Per la relazione alle Camere sui risultati dei riscontri eseguiti, prevale invece la funzione

delegata dell'organo legislativo (teoria della longa manus). Questo ruolo referente si è accentuato negli ultimi anni.

La Corte in Italia - pur essendo collaboratrice del Parlamento, viene definita dalla Costituzione (articolo 100) organo ausiliario del Governo, nel senso che assicura il rispetto della legalità nell'Amministrazione, ma è vero altresì che le vengono affidati anche compiti da organo giuridico (Agrò et al. 1979, p. 1436), ed è perciò inquadrata nella Magistratura (Costituzione, articolo 103).

I tipi di organizzazione variano anche da paese a paese. In Francia e in Spagna la Corte fa parte del potere giuridico, mentre negli Stati Uniti, in Belgio e in Norvegia è assegnata al potere legislativo. In Svizzera e in Danimarca la Corte, facendo parte del ministero delle finanze, è organo esecutivo. Le Corti della Germania e dell'Inghilterra figurano fra le più autonome.

2. *La questione dell'indipendenza della Corte dei Conti*

Analiticamente i problemi discussi in questo articolo derivano dall'esistenza di relazioni del tipo *'principal-agent'* (p.es. Arrow, 1985). In caso di non coincidenza fra gli interessi dell'agente e quelli del 'residual claimant' maggiori sono i cosidetti costi di transazione. E ciò tanto nel settore privato quanto in quello pubblico ove maggiore è il peso dell'attività di controllo in quanto più onerosa l'informazione. E d'altra parte va rilevato come manchino nel settore pubblico quei meccanismi di autodisciplina quale ad esempio la concorrenza, tipici del settore privato, che facilitano il controllo stesso. Diversa è anche l'incidenza dei benefici di tale attività. Il settore pubblico sconta infatti la non immediata percettibilità per il singolo del vantaggio ricavabile dal controllo. Di qui l'esigenza di demandare ad un supervisore che ne tragga un qualche profitto individuale (p.es. stipendio, carriera) dall'esercizio di tale attività. Ne deriva una relazione del tipo *'principal-supervisor-agent'* (Tirole, 1986).

L'interesse del supervisore è a sua volta correlato a quello dell'entità che lo elegge, entità scelta fra tre alternative.

Nella prima il supervisore è scelto dal *corpo elettorale*, inteso quale 'principale finale' in un sistema democratico. Un'ipotesi questa che assicura l'aderenza dell'azione del supervisore ai dettami dell'Elettorato, il quale tuttavia rischia da parte sua di risultare privo di reali stimoli ad una appropriata informazione – divenendo razionalmente ignorante (Downs, 1957) – e ad una effetiva partecipazione all'elezione stessa.

La seconda possibile modalità contempla invece l'elezione del supervisore da parte del *Parlamento* inteso quale organo che da un lato incarna la volontà popolare e al quale, dall'altro, il Governo è chiamato a rispondere delle proprie scelte e del proprio agire. È evidente il vantaggio derivante da un più agevole accesso all'informazione e dai maggiori incentivi all'esercizio di un'attività di controllo. La maggiore efficacia nell'impiego delle scarse risorse acquisita tramite il controllo comporta infatti la possibilità di soddisfare con le stesse un numero più elevato di richieste. Di contro si riscontra tuttavia il rischio che il Parlamento non si attenga all'esigenza di assicurare che le eventuali spese disposte con nuove leggi godano di un'adeguata copertura finanziaria. E ciò qualora dovesse prevalere nell'organo legislativo (o meglio nelle forze che ne fanno parte) la logica di rincorrere vantaggi elettorali mediante provvedimenti che, prescindendo da criteri di sana e virtuosa amministrazione finanziaria, tendano solamente a soddisfare il maggior numero possibile di interessi particolari.

La terza ed ultima ipotesi prevede infine l'elezione del supervisore da parte del *Governo* che in quanto vertice della Pubblica Amministrazione risulta di per sé interessato alla scelta dell'ente di cui dovrebbe subire il controllo. Da rilevare tuttavia che eventuali rilievi critici espressi dal supervisore nei confronti dell'operato della P.A. finirebbero inevitabilmente per riflettersi negativamente sul Governo stesso. A ciò si aggiunge poi la circostanza per cui il supervisore potrebbe anche trasformarsi in potere autonomo, desideroso di porsi in un rapporto dialettico con l'esecutivo. Ciò che potrebbe produrre effetti paralizzanti sull'attività di quest'ultimo.

Ciò premesso, in qualsiasi delle tre ricordate ipotesi il supervisore necessita comunque della collaborazione dell'agente (e cioè l'Amministrazione) per poter esercitare le proprie funzioni.

Peraltro, poiché entrambi dispongono di un rilevante vantaggio di informazione rispetto al principale stesso, non improbabili risultano i pericoli di *collusione tra il supervisore e l'agente.* Pericoli che appaiono direttamente proporzionali, sia alla durata del rapporto tra le due entità, sia al citato vantaggio di informazione rispetto al principale, ma soprattutto alla possibilità per l'agente di offrire prebende (promozioni, incrementi remunerativi ecc.) al supervisore stesso onde ottenerne valutazioni o giudizi più edulcorati. Evidente cioè il rischio dell'instaurarsi di 'rapporti di scambio' basati su favori reciproci non sempre visibili. Rischio per eludere il quale è necessario evitare la creazione di meccanismi di dipendenza del supervisore dall'agente mediante la percezione per il primo dei vantaggi desumibili dall'assunzione di comportamenti corretti e leali nei confronti del principale (incentive compatibility). Ciò che è acquisibile mediante la previsione da parte del

supervisore di forme di compartecipazione ai risultati ottenuti grazie alla maggiore efficienza frutto dell'attività di controllo (Alchian et al., 1972). O, viceversa, in caso di non simpatia da parte del supervisore nei confronti di rapporti basati sull'alea, il medesimo obiettivo potrà essere conseguito con la previsione di compensi fissi che prescindono dai risultati (per l'appunto aleatori) dell'attività di controllo. Il tutto tenendo comunque sempre conto della necessità di evitare situazioni di dipendenza del supervisore dall'agente.

Il rischio dell'instaurarsi di possibili 'rapporti di scambio' può essere scongiurato anche con la revisione di mandati per il supervisore limitati nel tempo. Ciò che comporta tuttavia maggiori costi per l'informazione, stante la minore specifica conoscenza dell'oggetto del controllo dei diversi supervisori che si succedono via via, i quali risultano esposti in tale ipotesi al rischio di condizionamenti da parte dell'agente.

Da quanto precede è essenziale che la corte come organo di controllo non sia legata agli organi da essa controllati. Difatti la legge tutela l'indipendenza della Corte e dei suoi componenti di fronte al Governo (Costituzione, art. 100). Al riguardo tuttavia non basta limitarsi all'organizzazione formale (come menzionata dinanzi), ma occorre analizzare le dipendenze reali: i meccanismi di nomina e le norme di revoca devono garantire l'indipendenza dell'organo nei confronti dell'Esecutivo (Cansacchi e Brunati, 1980, p. 263; Landi e Potenza, 1987, pp. 511).

Va ricordato che il presidente, i presidenti delle 18 sezioni e il procuratore generale della Corte dei Conti sono direttamente nominati dal Governo. Inoltre, la metà dei consiglieri proviene dai ruoli della magistratura accendendo a tale posizione mediante nomina interna. L'altra metà risulta invece di nomina politica. Ciò che crea ampi margini di discrezionalità aprendo le vie ad elementi estranei alla Magistratura [2] (Crisafulli e Palladin, 1990, p. 628). Siccome l'accesso alle posizioni di vertice è fortemente influenzato dalle scelte governative, anche i membri della Corte di provenienza interna risultano dotati di una limitata autonomia nei confronti del Governo. Da ciò deriva quale logica conseguenza una meno ampia propensione a controlli rigorosi nei confronti degli atti della P.A. soggetti all'imperio della Corte stessa. Una Corte (soprattutto i suoi maggiori dirigenti) che dipende dal Governo non ha infatti alcun interesse ad effettuare rigorosi controlli e a predisporre relazioni troppo negative [3] (tranne come strumento di pressione

[2] Per una critica cfr. MARTINES (1984, pp. 492).

[3] La nomina a consigliere di un membro dell'Amministrazione (vedi *la Repubblica*, 6.12.90) fa dubitare sulla possibile indipendenza di controllo nei confronti delle proprie attività e degli ex-principali.

sul Governo per riceverne maggiore attenzione). Al contrario, siccome è nell'interesse della Corte aumentare i poteri del Governo centrale (suo principale) emerge il pericolo di una coalizione contro l'Elettorato.

Tale collusione può manifestarsi in vari modi. Tramite la centralizzazione di competenze avocate a sé la Corte può accrescere la propria sfera di influenza e amplificare il proprio ruolo. Le nuove funzioni (p.es. quella referendaria) offrono il pretesto per richiedere più personale e maggiori mezzi tecnici aumentando l'importanza e il prestigio dell'ufficio e dei rispettivi dirigenti. Sorge il pericolo di concessioni reciproche tra la Corte e il Governo: la Corte attenua la portata dei suoi eventuali rilievi critici, il Governo concede in cambio le promozioni e altre prebende (Forte ed Eusepi, 1990, p. 328).

La revoca delle cariche di livello più elevato della Corte è molto difficile: infatti si è voluto sottrarre la Corte all'imperio del Governo (Cansacchi e Brunati, 1980, p. 263). Sotto l'aspetto di una collusione tra l'Esecutivo, il Legislativo e la Corte, la quasi-inamovibilità dei magistrati amministrativi sortisce risultati opposti a quelli desiderati. I contribuenti risultano i grandi assenti.

3. *Le competenze della Corte dei Conti*

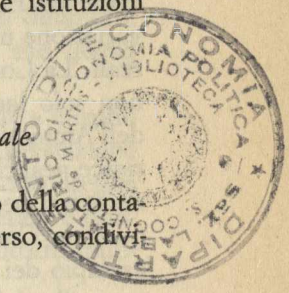
Si suole distinguere fra la competenza materiale e quella istituzionale. La prima riguarda il tipo di controllo (preventivo o successivo, di legittimità o di efficienza o giurisdizionale), la seconda il soggetto sottoposto al controllo. Ciò è di grande importanza: da un controllo parziale risulterà una scarsa significatività. Infatti viene reclamata la tendenza presso i vari Ministeri a creare "... enti, separati dalle normali burocrazie, che hanno facoltà di spendere con maggiore rapidità e flessibilità non essendo sottoposti ai normali controlli ex ante ed ex post della Corte dei Conti » (Forte ed Eusepi, 1990, p. 26).

Questa tendenza può essere frenata solamente sottoponendo i diversi enti a uno stesso medesimo controllo (opinione prevalente nella letteratura). Il controllo per esaurire l'intera gamma dei rapporti contabili di diritto pubblico deve seguire l'evolversi della finanza pubblica, da finanza dello Stato a finanza di una pluralità di enti pubblici.

Eventualmente oltre al controllo preventivo e successivo di pura legittimità, da un lato, e della conformità dei documenti contabili alle scritture tenute dalla Corte (aspetto tecnico-ragioneristico) dall'altro, anche il control-

lo di merito rientra nelle sue mansioni. In tal caso gli atti saranno giudicati anche sotto il profilo dell'opportunità.

Le Corti possono assumere caratteristiche diverse secondo le strutture statali. Laddove infatti le Regioni abbiano una contabilità separata, non è impensabile la previsione di organi di controllo regionali [4] (Costituzione, art. 130). In paesi a struttura centralizzata (Francia), invece, esiste un unico organo di controllo responsabile sia per le Regioni sia per le istituzioni nazionali (Lavagna, 1979, p. 949).



4. *Corte dei Conti - caratteristiche comuni a livello internazionale*

Da un confronto internazionale dei vari organi di controllo della contabilità pubblica risulta che pur essendo organizzati in modo diverso, condividono varie caratteristiche dovute ad aspetti istituzionali:

a) *La Corte dei conti - un organo statale.* – Siccome questo organo controllante è senza eccezione un'*istituzione pubblica*, pur essendo esterno all'attività di stretta amministrazione, appartiene alla medesima persona giuridica, lo Stato, e fa parte della Pubblica Amministrazione. Di conseguenza, nel suo lavoro di controllo e nella seguente relazione prevalgono le norme amministrative. Per diminuire le irregolarità e gli atti illegittimi, vengono proposte preferibilmente regole formali e disposizioni amministrative.

Questi strumenti sono sicuramente adeguati in certi casi, spesso però la rigida osservanza di regole tende a ridurre l'efficacia ed è fonte di spreco.

b) *Concentrazione su attività quantificabili.* – La Corte esamina il conto generale, controlla le entrate e le spese e i decreti legislativi riscontrandone la legittimità e confrontandoli con i dati di competenza. Questa verifica è possibile solamente se l'andamento reale e i limiti posti dalla legge sono osservabili e quantificabili. Molti criteri, non essendo adatti alla *quantificazione,* richiedono misure alternative che ne consentano la classificazione e cerchino di evitare le difficoltà menzionate e trovare ugualmente un elemento di giudizio. Spesso le alternative risultanto problematiche: usando i costi (Input) dei servizi al posto del loro rendimento (Output) non si ottengono dati davvero significativi.

Di conseguenza il controllo si concentra su una certa specie di eventi

[4] In Italia per le regioni ordinarie questo controllo viene eseguito dalle Commissioni di controllo.

che tuttavia rappresenta solo una parte limitata delle attività statali. Inoltre, siccome queste non vengono trattate sul libero mercato (avendosi spesso dei monopoli), perfino nei casi ove la prestazione sarebbe di per sé misurabile e osservabile, manca una valutazione di economia di mercato.

c) *Mancanza di potere reale.* – Vari autori reclamano i limiti della Corte. Forte ed Eusepi (1990) ad esempio accennano al fenomeno delle note di variazione utilizzate per adeguare le voci sottostimate nel bilancio alle spese reali. La Corte non ha *possibilità di intervento.* Basta ricordare che la Corte non solo lamenta la mancanza di potere per sanzionare il comportamento dell'Amministrazione e del Governo, ma pur avendone il diritto, a volte non riesce neanche a imporre agli amministratori la consegna di tutti i documenti necessari per il controllo [5]. Il fenomeno delle gestioni fuori bilancio per le quali la Corte può eseguire solo un assestamento posteriore [6] è un altro esempio dei stretti limiti posti alla Corte. In certi casi (atti presidenziali) il controllo della Corte, sebbene previsto dall'ordinamento in vigore, si limita alla mera legittimità formale senza accertare la conformità del decreto a norme costituzionali. Inoltre, un eventuale rifiuto di registrazione non ha alcun effetto giuridico sull'applicazione del decreto (Lavagna, 1979, pp. 319, 343 e 371).

Spesso – dato il sovraccarico di lavoro – le decisioni della Corte intervengono con molti anni di ritardo – il controllo è reso noto dopo che l'attività controllata è stata effettuata e il Governo responsabile nel frattempo è già stato sciolto. Le valutazioni della Corte rimangono spesso senza un vero seguito pratico, in quanto non considerate per eventuali modifiche delle attività burocratiche, come diverse organizzazioni degli uffici, diverse politiche di retribuzione e promozione ecc. (Forte ed Eusepi, 1990, p. 325).

Non avendo il cittadino (quasi) nessuna possibilità di influenzare la Corte ed essendo il suo controllo politico solo di carattere indiretto, non si è dotato questo organo di troppe competenze. La Corte chiede che il sistema di controlli venga adeguato legislativamente. Un progetto di riforma dell'ordinamento e delle funzioni, che aumenterà la responsabilità e le competenze della Corte, è in atto [7]. Uno strumento efficace per imporre ugualmente le sue raccomandazioni è la pubblicazione di certe infrazioni tramite i media (stampa, radio, televisione). Un mezzo simile sono gli appelli morali ('moral suasion') da parte della Corte.

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[5] Cfr. *L'Espresso*, 21.10.1990, p. 33.

[6] Cfr. p.es. CORTE DEI CONTI (1988, Volume 1, p. 50 e Volume 2, p. 43).

[7] Cfr. CORTE DEI CONTI (1988, Volume 4 p. 4 e Commissione parlamentare per le riforme istituzionali, 1992).

Nonostante questi rimedi abbiano sicuramente delle ripercussioni, la loro efficacia rimane dubbia.

C. La Corte - creatrice di inefficienza

Le caratteristiche delle Corti dei Conti menzionate possono diminuire addirittura l'efficienza economica. Dagli studi empirici risulta che questi costi possono divenire notevoli.

Di solito il grado di efficienza nell'Amministrazione è difficile a misurare. Non è possibile fissare 'oggettivamente' la quantità di una prestazione utile per la società: secondo le proprie preferenze, ogni individuo sceglie la sua quantità preferita. Ne risultano altrettante quantità desiderate e dunque apprezzamenti differenti della medesima prestazione dell'autorità pubblica.

Tenendo conto di questo problema, l'analisi seguente si concentra sull'origine (processo di formazione) dell'attività pubblica e cerca di individuare quali fattori ne aumentano e quali ne riducono l'efficienza.

1. *La 'ratio amministrativa'*

Anche se la Corte ha il compito di controllare la coerenza delle spese in rapporto alle loro finalità, preferisce concentrarsi sui puri controlli di legittimità. Nella letteratura si parla di 'judicial self-restraint' (Kisker, 1983) [8]. La ragione politico-economica di un tale agire è ben chiara: se la Corte trova delle irregolarità nel comportamento della Pubblica Amministrazione, questa, disponendo di un vantaggio di informazioni [9], sarà pronta a protestare contro i rilievi della Corte rendendone difficile la prova; - il controllo dell'economicità può creare facilmente difficoltà. Le violazioni trovate dal *confronto tecnico-ragioneristico* sono più facili da dimostrare. Tale procedere garantisce dunque meno problemi e costi minimi. Facendo parte anche la Corte dell'apparato statale, ne deve osservare le rispettive regole e proporre soprattutto strumenti amministrativi e modifiche legislative.

In certi casi leggi nuove e/o la più stretta osservanza di quelle vigenti possono essere adeguate a incrementare l'efficienza; spesso però la più ferma

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[8] Schäfer (1977), parla addirittura di 'political self-restraint'.

[9] Greifeld (1981, p. 105) parla addirittura di un monopolio dell'informazione nei confronti della Corte.

osservanza delle regole la diminuisce (Gilles, Otto e Weinert, 1987, p. 186; Schwab, 1980, p. 586).

Un ottimo esempio del contrasto tra economicità e regolazione è il principio di non-vincolo, il che significa che le eccedenze non possono essere trattenute dall'ufficio in questione ed essere utilizzate nel prossimo esercizio, bensì devono essere restituite. Conseguenza ben nota è lo sperpero senza motivo dei mezzi rimanenti a fine anno. Per i funzionari questo comportamento non è che razionale: risparmiando infatti le risorse non solo non otterrebbero alcun riconoscimento, in quanto l'anno successivo il Parlamento assegnerebbe al loro ufficio meno fondi [10], sarebbero addirittura biasimati per l'eccessivo rigore. Essendo gli utili risparmiati un bene collettivo, l'ufficio non può aggiudicarseli e la tassa implicita supera addirittura il 100%.

Una Corte che tiene più che altro ad aumentare le prescrizioni, chiederà controlli più rigidi. Non cambiando la causa del comportamento (mancanza di stimoli a realizzare eccedenze) ovviamente l'efficienza non aumenterà, anzi diminuirà. Si sprecheranno persino più risorse e/o i maggiori controlli aumenteranno le attività improduttive per l'Elettorato e i contribuenti [11].

2. *Accentuazione esagerata degli aspetti di bilancio*

Gran parte delle obiezioni presentate dalla Corte riguardano le cifre contenute nella contabilità pubblica. Ne risultano due problemi considerevoli:

a) *Il costo opportunità viene trascurato in maniera sistematica.* – I conti contengono solamente le entrate e le spese realizzate, senza segnalare il beneficio derivante da un possibile uso alternativo delle risorse. Una Corte che orienta la propria azione soprattutto verso le cifre della contabilità verifica dunque solo una parte (probabilmente piccola) delle inefficienze statali. Le unità amministrative saranno punite solo se usano i mezzi in modo che non si addice. L'impatto di un *impiego alternativo* delle risorse disponibili, pur essendo necessario per un giudizio sull'operato dell'Amministrazione, viene esaminato raramente.

b) *La Corte non considera i costi e gli utili esterni (fuori bilancio).* – Il

[10] Cfr. CORTE DEI CONTI (1988, Volume 1, p. 37 e 50): 'limite all'aumento della spesa di ciascun ministero rispetto alle somme impegnate risultanti dal conto consuntivo 1988'.

[11] Un esempio è la sfasatura temporale tra il pagamento del bene acquistato e la presa in carico.

risparmio proposto nell'ambito amministrativo viene spesso pagato dai privati. Per esempio i costi di bilancio della manutenzione delle strade diminuiscono eseguendo il lavoro nei giorni feriali (anziché, di notte o giorno festivo). Aggiungendo i costi sostenuti dai privati (la perdita di tempo) l'efficienza sarebbe magari da valutare altrimenti. I cittadini e le imprese private, che devono sopportare l'onere di una politica amministrativa più stretta, indirizzano i loro reclami agli impiegati pubblici a contatto col pubblico. Questi, a conoscenza dei *costi esterni*, saranno dunque in grado di valutare più propriamente la situazione specifica. Invece la Corte, lontana dal pubblico, non prenderà in considerazione questo tipo di costi.

3. *Sottovalutazione degli incentivi (stimoli)*

Spesso si suppone che il comportamento dei funzionari sia guidato esclusivamente da norme morali e che essi perseguano sempre e in tutte le circostanze solamente il benessere generale.

Non hanno interessi propri e la loro motivazione è di natura intrinseca. Perciò non si dà loro alcuno *stimolo addizionale* perché promuovano gli obbiettivi stabiliti. Lo stipendio non viene dato per ottenere un comportamento desiderato, ma per garantire ai funzionari un livello di vita che corrisponda al prestigio del loro lavoro e per prevenire la corruzione. Pur accorgendosi che questo principio fondamentale della Pubblica Amministrazione non corrisponde alla realtà, le Corti devono accettarlo (altrimenti metterebbero in dubbio l'intera struttura amministrativa e la sua base ideologica).

Non si pretende che il denaro sia sempre il mezzo adeguato per aumentare l'efficienza, soprattutto se la ricompensa monetaria distrugge la motivazione basata su un concetto morale.

Nella psicologia sperimentale sono state identificate delle situazioni nelle quali ciò accade [12], però nelle scienze sociali non se ne è ancora tenuto conto (Frey, 1992). Bisogna considerare che anche delle disposizioni molto rigide possono distruggere la motivazione intrinseca.

L'introduzione di prescrizioni nuove che la Corte abitualmente tende a proporre, può diminuire la voglia di lavorare. In generale bisogna cercare di lasciare abbastanza spazio libero per agire secondo la propria motivazione intrinseca - se veramente esistono tali norme morali. Dalla ricerca economica che si occupa degli incentivi (Alchian, 1965; Alchian e Demsetz, 1972;

[12] Si suole parlare di 'hidden costs of reward', p.es. McGraw (1978).

Williamson, 1985; Demsetz, 1988) risulta comunque che in generale la ricompensa aumenta la (volontà di) prestazione.

La Corte trascura anche un altro incentivo: la *concorrenza.*

Se due istituzioni statali lavorano nello stesso ambito si parla subito di duplicità e spreco inutile da eliminare al più presto. Nonostante l'evidenza empirica dimostri che la concorrenza fra le unità amministrative e il settore privato aumenta l'efficienza (Niskanen 1975; Pommerehne, Schneider e Zweifel 1982; Boardman e Vining, 1989), la Corte sostiene la tesi dell'eliminazione delle duplicità adducendo il pretesto di voler risparmiare. Non si considera che, di solito, l'assegnazione di un monopolio peggiora la situazione.

Questa lotta contro le duplicazioni, comune in tutti gli ambiti dell'attività statale, è problematica soprattutto dove è più difficile misurare il rendimento. Caso esemplare è la ricerca: molti esempi reali dimostrano che specialmente nell'ambito della scienza, la concorrenza fra diversi ricercatori stimola enormemente il rendimento, come si è potuto vedere nella corsa per la decodificazione della struttura genetica DNA (Watson, 1981). Dunque la Corte deve fare il contrario di quello che fa oggi: la concorrenza non solo non va impedita ma va addirittura promossa, assegnando ad esempio una parte maggiore delle risorse a chi ne trae un maggior beneficio.

4. *Concentrazione su problemi di minor rilievo*

Le relazioni della Corte contengono un flusso amplissimo di dati; ognuno sarà impressionato dalla diligenza impiegata e dalla competenza professionale. Ciònonostante manca una visione chiara delle *esigenze prioritarie*: invece di concentrarsi sui settori della spesa pubblica finanziariamente cruciali [13] e sulle cause strutturali che generano tali inefficienze, si suole dare più importanza alle infrazioni formali e di poco rilievo.

Fra gli ambiti più importanti figura l'Agricoltura. In effetti mentre si denunzia l'illegittimità, non si allude alla gigantesca inefficienza economica che deriva dalle sovvenzioni all'agricultura. Secondo dei calcoli dell'OCSE (1987, tavola 4, p. 48) i costi nell'agricoltura (in senso economico) causati dalla politica agraria attuale ammonterebbero mediamente nel periodo 1979-81, per la Comunità Europea, a 56.600 milioni di ECU (il che equivale al 2,8% del rispettivo prodotto nazionale lordo e al 93,2% del valore

[13] Quali p.es. le spese per il Mezzogiorno, per l'istruzione e per la Sanità (FORTE ed EUSEPI, 1990, p. 327).

delle produzioni agricole). In confronto a queste cifre le obiezioni dovute a violazioni di disposizioni sono secondarie.

La causa per la quale la Corte 'perde' il suo tempo con questi sprechi minori è la mancanza di competenze: per i grandi blocchi di spese, come la politica agraria, la Corte non può esprimere proprie valutazioni. Questa limitazione è auspicata e ben fondata, anche se risulta paradossale che la Corte non si possa occupare dei problemi effettivamente rilevanti all'interno dell'attività statale. Pertanto la Corte può aumentare la propria efficienza solamente entro limiti molto stretti. Deviando l'attenzione dai problemi fondamentali e contribuendo a mantenere con degli interventi marginali una politica inefficiente, altrimenti forse cessata, impedisce terapie più decise e può così addirittura contribuire a ridurre l'efficienza.

5. *Pubblicità controproducente*

Nella letteratura sulla Corte si suole osservare che pur essendo le sue informazioni di alta qualità, esse non hanno alcuna conseguenza. Anche se alcuni difetti vengono eliminati, in generale dopo un certo tempo riappaiono le medesime inefficienze. Come soluzione, molti autori propongono che le relazioni siano presentate in maniera più adeguata al pubblico – tramite conferenze stampa e media – sperando che la pressione pubblica abbia un effetto sul comportamento dell'Amministrazione criticata. Di rado però si spiega in quale maniera questa pressione dovrebbe essere esercitata. Probabilmente si spera che i politici (volendo essere rieletti) e soprattutto i partiti dell'opposizione esigeranno dei miglioramenti. Il Governo cercherà di agire di solito con prescrizioni più rigide. Però essendo anche lui considerato responsabile, per ragioni elettorali, sarà più vantaggioso dare la minima importanza possibile alle critiche.

Rivolgendosi al pubblico la Corte può selezionare solamente un numero ristretto fra le irregolarità denunciate. I media esigono i casi più spettacolari. Anche se produrranno delle conseguenze politiche, l'effetto totale sarà minimo. La concentrazione sui *casi spettacolari* cambia il comportamento dell'Amministrazione: fintanto che la violazione delle disposizioni non provoca interesse nei media, non bisogna temere la critica della Corte. L'Amministrazione sa che i politici – interessati soprattuto ai voti – non presteranno attenzione a casi poco spettacolari.

La pubblicizzazione può perfino avere un effetto contrario e ridurre l'efficienza dei servizi pubblici. Se le informazioni spettacolari diffuse dai media danno agli impiegati l'impressione che le violazioni osservate siano la

regola, le varie unità amministrative si chiederanno fino a che punto si possono permettere delle irregolarità senza essere accusati di inefficienza o sprechi. In tal caso l'informazione del pubblico può addirittura ridurre l'efficienza.

D. Proposte per aumentare l'efficienza statale

L'analisi del comportamento della Corte dimostra che essa può sì contribuire all'aumento dell'efficienza nel settore pubblico, ma che la sua attività deforma in modo sistematico il processo amministrativo e può dunque anche diminuirne l'efficienza. Questa osservazione è utile solo se si possono indicare alternative realizzabili migliori (*analisi istituzionale comparativa*).

In una democrazia lo Stato deve rispettare i desideri dei cittadini il più possibile. Per ragioni ben note il cittadino dispone solo di possibilità limitate per obbligare gli organi statali a un comportamento conforme ai suoi desideri. Di conseguenza ne risultano gravi deviazioni dalle preferenze del pubblico. Per aumentare l'efficienza statale le possibilità proposte in questa sede vogliono in primo luogo rafforzare l'influenza del cittadino e recuperare le leggi di mercato.

Solo in tal modo l'aumento di efficienza non si limiterà ad aspetti tecnici, senza un vero aumento del benessere degli individui.

In effetti è possibile aumentare l'efficienza nel settore pubblico. Si possono creare regole costituzionali che stimolino gli esponenti nel processo politico-economico ad aumentare l'efficienza e a ridurre le inefficienze. Le regole costituzionali si possono riferire a tre livelli differenti: al livello della Corte dei Conti, al livello politico e a quello amministrativo.

1. *Ambito della Corte dei Conti*

Uno dei maggiori problemi è la mancanza di un agente davvero interessato a un controllo effettivo. Si devono quindi dare degli incentivi ai membri della Corte perché considerino maggiormente le preferenze dei cittadini (veri principali) e perché svolgano il loro lavoro con efficienza. A questo proposito esistono varie regole costituzionali:

(1) i *Presidenti di sezione* della Corte dei Conti possono essere *eletti dai*

cittadini aumentandone la legittimazione democratica necessaria ad un organo con influenze reali.

Come esempio può servire l'elezione da parte del corpo elettorale dei membri della Corte a livello municipale in diverse città e municipii della Svizzera.

(2) La *realizzazione delle proposte* presentate dalla Corte per incrementare l'efficienza potrebbe esser dichiarata *obbligatoria* tramite un referendum. In tal modo si eviterebbe che il Governo imponga solamente quelle proposte che gli convengono e si consente una reale capacità di controllo. Ciò presuppone che la Corte formuli la sua critica in forma di proposte alternative che saranno sottoposte a una votazione popolare se trovano un numero sufficiente di firme in suo favore. Per ragioni di equità fiscale le votazioni popolari vanno concepite al livello (municipale, regionale, statale) in cui si producono sia i benefici che i costi.

(3) Anche nell'ambito del controllo della Pubblica Amministrazione si può immaginare un aumento dell'efficienza tramite una *maggiore concorrenza*. Le Corti statali potrebbero essere divise in unità indipendenti e con ricompense monetarie si potrebbe incrementare il controllo da parte del settore privato (ad esempio società di revisione). I mezzi finora assegnati alla Corte potrebbero essere aggiudicati all'istituzione che ottiene i risultati migliori ('contracting out'). Una forma di privatizzazione ancora più radicale sarà raggiunta se alle imprese private viene permesso di trattenere come compenso una parte dei risparmi da loro indotti. Otterranno così un incentivo per concentrarsi sulle attività del servizio pubblico dove si suppone esistano le maggiori inefficienze. Questo 'head' o 'bounty hunting' (Toma, 1989) non va sopravvalutato poiché anche qui si creano distorsioni sistematiche. Le società di revisione si occuperanno solamente degli ambiti dove sperano di potere provare inefficienze con un minimo di costo (in confronto alla relativa ricompensa).

2. *Ambito politico*

Come si è potuto osservare (vedi il caso della politica agraria) gran parte dell'inefficienza statale è dovuta alle attività del Parlamento e degli stessi politici. Essendo la Corte subordinata al potere legislativo (legittimato democraticamente) non può impedire questo tipo di inefficienza. Ma anche dove il Governo lascia o addirittura appoggia la creazione di inefficienza per

ricevere maggior appoggio e voti, la Corte, pur volendo, non riuscirà ad aumentare l'economicità. In questi casi l'aumento dell'efficienza nel senso economico equivale anche a un maggior rispetto delle preferenze dell'Elettorato. Un aumento dell'efficienza tecnica sarà possibile solamente se il Parlamento e il Governo saranno stimolati da regole istituzionali adeguate e – nel caso estremo – se vi saranno obbligati per sopravvivere politicamente. Esistono vari modi per creare stimoli di questo genere:

(4) *Decentralizzando i compiti statali.* – La maggiore autonomia finanziaria delle Regioni e delle amministrazioni locali e la decentralizzazione delle competenze e dei controlli a livello regionale rende l'informazione più facile e il guadagno di efficienza più percepibile. Ne risulta un maggior rendimento del controllo per il singolo.

(5) *Intensificando la concorrenza tra i partiti politici.* – Il Parlamento deve rimanere aperto a quei partiti che rappresentano correnti nuove e che si occupano di tematiche finora trascurate. Le regole costituzionali devono impedire che i partiti già presenti in Parlamento formino una coalizione contro le forze non ancora rappresentate ma in grado di guadagnare importanza nel futuro. Si fa riferimento soprattutto al finanziamento dei partiti e ai privilegi dei politici. Nel caso degli Stati Uniti si è potuto dimostrare empiricamente (Baber, 1983) che la maggiore concorrenza fra i partiti stimola il Governo – tramite un controllo più efficace – a un uso più efficiente delle risorse economiche.

(6) *Aumentando la partecipazione diretta del cittadino nelle decisioni politiche.* – Ciò è possibile concedendo al cittadino il diritto di iniziativa e dandogli la possibilità di richiedere referendum facoltativi o obbligatori. In Svizzera vengono eseguite spesso votazioni su diversi temi (tra l'altro sulla partecipazione nelle imprese, sulle imposte, sull'energia nucleare e sugli orari di lavoro). Come dimostra l'esempio, l'istituzione della votazione popolare è compatibile sia con un livello di vita alto sia con la stabilità politica.

Per la Svizzera si è inoltre potuto dimostrare che i servizi pubblici a livello municipale (p.es. la nettezza urbana) lavorano più efficientemente nei comuni che più godono di diritti democratici, quali il diritto di iniziativa e di referendum (Pommerehne, 1983).

3. *Ambito amministrativo*

Regole costituzionali adeguate possono stimolare i funzionari a eseguì-

re meglio e più economicamente i loro compiti. Sono specialmente due i concetti da indicare:

(7) *Concorrenzialità nell'offerta di servizi.* – Invece di assegnare uno stanziamento fisso alle unità amministrative (cosa che induce inefficienze, Niskanen, 1975) va aumentata la *concorrenzialità nell'offerta di servizi* per obbligare ad agire economicamente. Questo sistema è adatto soltanto là dove varie unità amministrative possono agire nello stesso campo. I mezzi saranno assegnati all'unità che produce il servizio richiesto a costi minimi. Ammettendo anche offerte di imprese private si può aumentare la concorrenza. Una privatizzazione è così in via di principio possibile; sarà però effettuata solamente nel caso in cui l'offerta privata sia economicamente più vantaggiosa. Come dimostrato da approfondite analisi svolte negli ultimi anni in molti ambiti dell'attività statale, una maggiore concorrenza è possibile e ragionevole (Borcherding, Pommerehne e Schneider, 1982; Bendor, 1985; Yarrow, 1986).

(8) *Incentivi.* – Tramite degli *incentivi* si possono compensare e promuovere sforzi straordinari della *Pubblica Amministrazione.* D'altra parte si dovrebbe rinunciare a promozioni automatiche, indipendenti dal rendimento. Non bisogna pensare solamente a ricompense monetarie. In vari paesi (p.es. nel Regno Unito) vengono date tradizionalmente decorazioni e titoli per aumentare il rendimento. Si tratta di un 'bene' che (fintanto che non viene assegnato in gran quantità) permette una differenziazione sociale (Hirsch, 1976; Frank, 1985) e stimola il rendimento. Questo tipo di stimolo non monetario, di costi minimi per lo Stato, merita maggiore attenzione anche perché gli stimoli monetari col tempo tendono a perdere il loro effetto. Ciò è dovuto all'incremento del livello delle paghe (fenomeno ben noto nel settore privato).

Però è importante ricompensare solamente gli sforzi straordinari, altrimenti si rischia di distruggere la motivazione intrinseca. Chi fa solamente il suo lavoro non deve essere ricompensato ulteriormente.

E. Conclusioni

Dall'analisi politico-economica delle possibilità disponibili ai membri della Corte dei Conti e degli incentivi loro assegnati (carriera), risulta che le attività di una Corte – aggiungendo nuove distorsioni – in certi ambiti riducono l'efficienza dei servizi pubblici.

Le normative concernenti la Corte vogliono incrementarne l'efficienza, al fine di aumentare anche quella dei servizi pubblici. L'elezione diretta della Presidenza della Corte crea a tale proposito una relazione diretta con l'Elettorato. Ne risulta il vantaggio che le attività della Corte diventano legittimate democraticamente. Perciò non esiste più alcuna ragione per la quale la Corte dovrebbe praticare il cosidetto 'judicial self-restraint' in temi politici discussi. Dal punto di vista economico questo procedimento ha anche un altro vantaggio. La remunerazione dei funzionari della Corte dipende dai risultati conseguiti (valutati dall'elettore) e da ciò deriva un'auspicata coincidenza tra costi e benefici. La libertà d'azione dei membri della Corte sarà condizionata dalla necessità di essere rieletti. Nel controllo della Pubblica Amministrazione saranno dunque considerati maggiormente i costi e i benefici del cittadino. Lo stesso effetto è raggiungibile con la possibilità di votazioni popolari sulle raccomandazioni proposte dalla Corte. Regole costituzionali che espongono (per lo meno in parte) la Corte alla concorrenza impediranno una coalizione implicita tra l'organo controllante e quello controllato a scapito del cittadino. La concorrenza obbliga anche a prestare maggiore attenzione agli ambiti dove l'inefficienza statale è di una certa entità.

Siccome molte inefficienze dei servizi pubblici – incrementate dal lavoro della Corte – derivano dall'assetto istituzionale, per eliminarle occorre un suo cambiamento. Il Governo e il Parlamento creano consapevolmente talune inefficienze delle attività statali: fanno uso della loro libertà di agire in proprio favore a spese del resto della società. La Pubblica Amministrazione, oggetto di critiche da parte della Corte dei Conti, non è responsabile per la disattenzione nei confronti dei desideri dei cittadini.

Le inefficienze derivanti dall'attività della Corte, segnalate in questa sede, vanno considerate da questo punto di vista. Ciò è evidente nel caso delle prime inefficienze descritte: la limitazione del controllo ad aspetti della 'ratio' amministrativa e l'accentuazione esagerata degli aspetti contabili significano che gli utili e i costi dell'attività statale rilevanti per il cittadino vengono considerati solamente marginalmente, se non addirittura trascurati.

La maggiore concorrenza tra i partiti politici e l'introduzione di diritti di partecipazione democratica più ampi (p.es. mediante le consultazioni popolari) faranno sì che gli esponenti politici (Governo e Parlamento) emetteranno nel proprio interesse leggi e decreti che considerino maggiormente gli interessi del cittadino e del contribuente.

Con delle regole costituzionali che si riferiscano al processo politico si intende incrementare l'efficienza del settore pubblico in modo diretto. Dando più importanza alle preferenze degli elettori, l'intervento della Corte non risulta più necessario. Lo stesso vale per le regole dirette alla Pubblica

Amministrazione che danno ai funzionari degli incentivi per raggiungere le finalità decise dal Parlamento, dal Governo e (nel caso della Democrazia diretta) dall'Elettorato. La concorrenza fra le unità amministrative per i mezzi e gli stimoli non monetari aumenta la volontà di raggiungere gli obbiettivi fissati politicamente. La razionalità dell'attività amministrativa sarà così estesa oltre agli aspetti formali, considerando anche gli aspetti non contabili. La Pubblica Amministrazione cercherà di raggiungere i suoi obiettivi, oltre che con specifiche misure, mediante appositi incentivi. Questi ultimi possono essere creati sia da essa stessa, o tramite apposite leggi adottate con il consenso delle forze politiche.

Questa analisi della Corte dei Conti è stata effettuata sotto il profilo politico-economico. Siccome né il Governo né l'Amministrazione hanno alcuno stimolo ad accettare delle critiche e proporre dei miglioramenti, non è possibile aumentare l'efficacia delle Corti con proposte isolate. Nel quadro delle regole vigenti, le Corti si comportano come viene loro permesso e imposto. Perciò l'efficacia insufficiente delle Corti osservata nella letteratura, in generale non è dovuta né a incompetenza né a mancanza di volontà da parte dei membri delle Corti. La loro competenza professionale è anzi notevole: la ragione del mancato aumento dell'efficienza pubblica risiede nelle normative vigenti che regolano l'attività statale: esse non offrono abbastanza stimoli per agire in conformità ai desideri dell'Elettorato.

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THE SUPREME AUDIT OFFICE: POLITICO-ECONOMIC ASPECTS

Information provided by Supreme Auditing Institutions is a necessary precondition for controlling public administrations. Nevertheless, five major distortions are produced: concern with administrative rationality overlooks costs arising elsewhere; budgetary aspects are overvalued compared to other issues; incentive-oriented behaviour is supressed; evaluation is biased by concentrating on minor, instead of major, aspects of inefficiency; and increased publicity produces perverse effects. An alternative way of increasing efficiency in the public sector is offered. Constitutional rules can be devised which provide incentives to decision makers in the current politico-economic process to act in ways that reduce waste and enhance efficiency.

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MARSHALL ON NORMAL PROFITS

by
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I. *Introduction*

The paper will first describe the difficulty in defining Marshall's concept of "normal profits" (*NP*). Then, it will be shown that *NP* is only equivalent to "zero" profits if "net" *NP* (NP_N) is being described. The "gross" or "accounting profits" version of *NP* (NP_G) will be shown to be positive. *NP* will also be compared with "normal supply price", a similar, but not identical concept, which unfortunately has served to obscure Marshall's true definition of *NP*. The normal was regarded by Marshall as a minimum price which would just cover the costs-of-production, all of which were regarded as explicit, so a normal price implied that accounting profits equaled net profits equaled zero. No gross profits concept was implied by the definition of normal supply price. But, the two implicit opportunity costs: earnings of management and interest paid by the representative firm in the industry, which were important in determining the size of positive NP_G, were considered as explicit by Marshall's definition of normal supply price.

II. *The Problem of Defining Normal Profits*

Marshall never carefully defined *NP* even though he highlighted the concept in his *Principles* (Marshall, 1920, Bk. 6, ch. 8, sec. 3-sec. 5, pp. 614-620), but parts of the definition are scattered about in other parts of the *Principles* and some of his other writings. Here is a typical description of the concept from Bk.6, ch. 8: "...there is in each trade and in every branch of

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each trade, a more or less definite rate of profits on the turnover which is regarded as a 'fair' or normal rate" (ibid., p. 617). However, Marshall's descriptions of *NP* were confusing because they referred sometimes to an industry, "...when such improvements...are accessible to the whole industry...then the prices of the products will keep close to a level which yields only a normal rate of profits to that class of industry" (ibid., p. 615). At other times they referred to the "representative firm" within an industry: "We shall have to analyze carefully the normal cost of producing a commodity...and for this purpose we shall have to study *the expenses of a representative* producer for that aggregate volume" (ibid., p. 319, italics Marshall's) [1]. This paper will refer to *NP* mainly with the latter usage [2].

A definition of *NP* emerged when Marshall was describing the relation of the long run profit rate for a firm to the "current" (average of) interest rates (Marshall, 1920, p. 74). According to this view, Marshall's ideas on *NP* evolved from the orthodox view of "the distinction between natural and market value found in the work of Smith and the classical economists" (Whitaker, 1987, p. 358). The relation between the natural and market interest rates in Marshall's treatment of *NP* is explored in another paper (Gootzeit, 1993b). Such earlier writers as Senior and J.S. Mill had also discussed a concept quite similar to *NP* [3]. It should be noted that Senior, Mill and Marshall all clearly distinguished between the long term profit and market interest rate, so these two rates were not regarded to be equivalent [4].

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[1] See also BLAUG (1978, p. 411) and SCHUMPETER (1954, p. 894) for a description of *NP* which relies on the concept of the representative firm. Marshall, however, never made such a close (or explicit) connection between these two ideas in the *Principles*.

[2] Marshall also used the concept of "normal supply price", (ibid., p. 343) which was related to, but not the same thing as *NP*. More on this concept in a later section.

[3] Senior's writings contained a theory of business savings supply for which the expected profit rate was the main cause (GOOTZEIT, 1992). *NP* would exist in the long run when the differential between the expected "gross" profit rate and the market interest rate was zero (ibid., p. 252). J.S. Mill showed in the essay: "On Profits and Interest", that the Ricardian idea of a strong positive relation between the profit and interest rate was false (GOOTZEIT, 1991, p. 567). In this discussion, he defined a "general" profit rate, which appeared close to what Marshall called later the "normal" rate of profits. This profit rate was still at least partially determined by the market interest rate in the long period. Marshall's concept of *NP* also depended partially on the market rate.

[4] See (PANICO, 1988, pp. 34-36) on the supposed lack of clarity in 19th century "classical" economics between the definitions of these two rates. This paper will show that even though Marshall frequently implied that the profit equals the market interest rate was a definition for *NP*, these two returns were not regarded as equivalent because this condition was not regarded as an identity. See also GOOTZEIT (1992, p. 253; 1991), who shows that Senior and Mill also did not regard these rates as identical. Panico was clearly referring to the equivalency in

From a cursory reading of *Principles*, the most obvious definition of *NP* seemed to be an average rate which set a minimum on the rate of return to the owner of a representative firm in the long period: "*Normal* profit is essentially an opportunity cost, the minimum return necessary to secure the owner's inputs to their current use, or rather to accomplish this for an owner of normal [average] ability...In long-period equilibrium each [owner] must just receive the same normal rates of return on his investment..." (Whitaker, 1987, p. 358; italics in original, bracketed words mine) [5]. It should be noted that part of the required return to the "owner's inputs" would be implicitly evaluated as what a hired manager would earn at the prevailing rate, hence, the use of the term: "opportunity cost".

Other more specific definitions of *NP* may also be found elsewhere in Marshall. These definitions emphasized the "ability" of the entrepreneur just as did the previous selection, but also added the importance of covering necessary interest expense. One, at least, may be found in Marshall's non-*Principles* discussion of profits: "The supply price of the business man's ability must be taken on the assumption that his mind was like land on the margin of cultivation, that is, not that it made *no* return to the capital and labor spent in educating it, but that it made only ordinary profits, i.e. that it made (in addition to interest on the material capital used by him) just enough to pay the expenses of production of his business ability..." (Marshall, 1961, v. 2, p. 674; italics in original) [6]. This definition of *NP* emphasized the fact that *two* necessary or opportunity costs of production existed: "interest" and "the expenses of production of business ability". Both of them should be paid back by ordinary or *NP*.

A similar definition of *NP* was also given by Marshall's description of interest in the *Principles*: "[An undertaker] would not, however, be willing to continue the business unless he expected his total net gains from it to exceed interest on his capital at the current rate. These gains are called

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classical economics between the long term profit and the long term average interest rate in the capital market, later called the "natural" rate. See also GOOTZEIT (1993b).

[5] The implication here was that if profit were lower than normal, the owner of the representative firm would not make the investment and the firm would go out of business: "This normal rate of profit may be loosely defined as the rate that makes it worth while to enter, and to stay in, business...Somehow all this has grown into the simplified normal profit of Marshall's followers and then into the marginal efficiency of Keynes's *General Theory*" (SCHUMPETER, 1954, p. 1049).

[6] Originally from Marshall's article: "The Theory of Business Profits", *Q.J.E., 1,* 1887, pp. 477-81. This article was added as an appendix to Bk. VI, ch. 8, by C. W. Guillebaud, the editor of the 9th (variorum) edition of the *Principles*.

profits" [7] (Marshall, 1920, Bk. 2, ch. 4, sec. 2, p. 73; bracketed words mine, italics Marshall's). Furthermore: "What remains of his profits after deducting interest on his capital at the current rate...is generally called his *earnings of undertaking or management*" (ibid., p. 74, italics Marshall's). Together, these quotes treat "interest on capital" at the "current" or going rate and "management" expenses as the two necessary (and implicit) costs which must be covered in the long period.

The "current interest rate on capital" was probably what Marshall defined elsewhere in the *Principles* as the *equilibrium* rate in the long period: "Thus then interest, being the price paid for the use of capital in any market, tends towards an equilibrium level such that the aggregate demand for capital in that market, at that rate of interest, is equal to the aggregate stock forthcoming there at that rate" (ibid., p. 534). The use of *tends toward* in this statement indicated that the interest rate would move gradually toward the level determined by "capital" market equilbrium. Only in the long run would it get there.

The implication of these several definitions was that *NP* for a firm existed in long period capital market equilibrium, when the "total net gains" or profits from a proposed business investment was exactly equal to the alternative cost of interest expense calculated at the equilibrium rate of interest, plus the average earnings which may be attributed to management [8].

III. *The Relation Between Gross and Net Normal Profits*

Although normal profits (*NP*) was related to the idea of "a minimum" profit rate for the firm in the long run (Whitaker, 1987, p. 358), its exact size has not been clearly defined. In describing the relation of Marshall's concept of the representative firm [9] to his concept of *NP*, Haney appeared to be saying that *NP* will at least be *positive*:

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[7] These *gains* will be called *gross* profits later in this paper. It will be shown that if gross profits are positive, *net* profits will equal zero, and *NP* will prevail.

[8] The "average" earnings of management was never defined by Marshall, but this seems to be what he was driving at by treating these implicit earnings as a necessary cost. They might be defined as a long run concept: "...the annualized equivalent of the expected stream of earnings *just* sufficient to induce an individual [or a group of individuals] of normal [management] ability to found a firm in the industry rather than divert [their] energies and capital elsewhere" (Whitaker, 1987, p. 358; italics and bracketed words mine).

[9] Higgs (1925, v. 2, p. 921) characterized Marshall's concept of the representative firm (along with "quasi-rent") as "the least happy of his generalizations". This showed that the

> "The significance of a representative firm lies in what it represents...Evidently some average conditions...But an average implies a total situation, and, upon analysis, Marshall's total in this case seems to mean all firms which sell at or above cost, and thus make some 'profit' (on their capital) *in the long run.* Thus, one may ask, is he not begging his question by assuming that the general margin of production is a profitable one? At best, this device seemed to be a mere identity between 'normal' and 'representative' " (Haney, 1949, p. 646; italics in original).

If a firm sells "above costs", it would appear to make positive profits. Yet, the typical manner of illustrating Marshall's concept of *NP* in modern textbooks is to identify it with "zero" profits for the representative firm in long run competitive equilibrium [10]. *NP* can be both positive and zero simultaneously only if a "gross" and a "net" profit concept were being described. The minimum level of gross normal profits (NP_G) would be positive and when certain necessary costs were subtracted from it, only net normal profits (NP_N) could be zero.

The *Principles'* heavy emphasis on *NP* as a *minimum* return in the long-period, seemed to emphasize the positive NP_G over the zero NP_N idea. This was because Marshall wished to highlight the two opportunity costs of interest and management, which were set by the industry and which determined the size of this return. By implication, the costs already subtracted from revenue when NP_G was calculated, although never enumerated, were market determined; not regarded as given by any outside standard. Furthermore, Marshall clouded the issue of this difference between NP_G and NP_N when he referred to *total net gains* (Marshall, 1920, Bk. 2, ch. 4, sec. 2, p. 73), and then compared these gains to opportunity interest cost. Clearly, total *net* gains was more of a *gross* than a net concept.

The fact that the definition of *NP* was scattered about in Marshall's *Principles* left it somewhat vague, so it is not surprising that the concept has been subject to various interpretations. *NP* as zero profits (NP_N) can be traced back to the Cambridge writers of the early 1930s [11]. Writers on the

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concept was not clearly defined. The fact that the concept of a representative firm earning *NP* has continued to be used in economics is probably due to the efforts of the writers on imperfect competition in the 1930's, as will be shown.

[10] EKELUND and HEBERT (1990, p. 381, Fig. 15-2) is a good example of this approach. They refer to "normal cost" and "long term equilibrium with zero economic profits", but not specifically to "normal" profits. The figure illustrates: $AR = LRAC = SRAC$, at the minimum point of the cost curves. It can also be found in all principles books.

[11] SCHUMPETER (1954, p. 894, n. 4) credited the "Cambridge economists, in the 1920's and 1930's", with coming "to distinguish normal profits from those windfall profits" and

theory of the firm of this more recent period, were trying to compare imperfect with perfect competition. They held that just as for a perfect competitor, the long run equilibrium position of a monopolistic competitor meant that "pure profits are zero" (Schumpeter, 1954, p. 1053). Harrod (1933, p. 339) indicated a zero level of economic profits for the monopolistic competitive representative firm earning *NP*. In his refinement of J. Robinson's concept of *NP* for such a firm [12], Harrod made it clear that the "average rate of profit was equal to the normal" rate and it occurred "...in long-period equilibrium [when] the long-period cost curve and the curve showing total cost per unit from the particular plant in use are tangential at the point of equilibrium output" (ibid.; bracketed word mine). When generalized by other writers to the perfectly competitive firm, long run equilibrium output with *NP* would occur at the minimum point of the *LRAC* curve, where profits appeared to be zero. Costs were specified in such a way that most factors were earning a return given as an accounting (explicit) cost, but some factors, such as management, were earning an imputed return. In order for profits to fall to zero, these implicit costs had to be included in *LRAC* along with all other costs.

Marshall's *Principles* version of *NP* was positive (NP_G) and did not include imputed costs as part of *LRAC*. Marshall regarded zero NP_N to be less important than NP_G because it did not highlight the implicit costs which the firm had to cover so that it would earn at least a minimum return. By focusing on zero profits, the 1930s Cambridge writers neatly camouflaged the size of this minimum return by including the opportunity costs which determined it as part of *LRAC*.

The problem was that the 1930s writers on the concept of long run profits in imperfect competition never clearly described the difference between Marshall's positive and their zero *NP* idea. Particularly important in this regard was that they neglected Marshall's focus on opportunity management and interest costs in order to determine the minimum level for gross profits. Instead, their focus on "net" profits lumped together all costs

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furthermore credited Marshall with ideas "on the cyclical behavior of credit and prices [which] contain[s] the germs of a theory of windfall [greater than normal] profits..." (bracketed material mine). GOOTZEIT (1993b) focuses on Marshall's cyclic theory of prices rising when greater than normal (windfall or "supernormal") profits temporarily prevailed in the macro-economy.

[12] The definition of *NP* of a monopolistic firm was given by Harrod as "the rate just sufficient to induce *the firm itself* to embark on additional fixed capital expenditure" (ibid., p. 338; italics Harrod's). It has been shown that Marshall's definition was somewhat different; it applied instead to whether a perfectly competitive representative firm was earning enough in the long period to maintain a given capacity level.

as part of *LRAC* for both a perfect and monopolistic competitive firm. Their concept of *NP* has been passed down to us by modern texts in only this net version, where profits were zero.

Marshall also discussed a concept in his *Principles* called "normal supply price" which seemed to imply that *NP* would hold, but which also led to the conclusion that "accounting" profits would tend to zero for the representative firm in the long period. Normal supply price regarded all costs as explicit and part of *LRAC* [13], so it left out of consideration the two imputed costs Marshall regarded as important in other contexts. Thus, normal supply price also obscured the difference between the gross and net concept of *NP*. It is worth examining this concept in some detail, in order to determine exactly which costs Marshall regarded as explicit and how the idea of zero "accounting" profits did not necessarily mean "normal" profits to Marshall.

IV. *Normal Supply Price vs. Normal Profits*

In addition to *NP*, Marshall defined "normal supply price" of a commodity produced by a representative firm. This normal price was determined by "normal expenses of production...by that firm" and it would be just high enough to "maintain the existing aggregate amount of production" (Marshall, 1920, Bk. 5, ch. 3, sec. 5, p. 343). The concept of "normal supply price", because it was stated to hold for the representative firm and because such a price would ensure that the existing amount of output for this firm would be "maintained", seemed to be another aspect of the definition of *NP*. The impression conveyed was that if the supply price was normal, so was profits. But, Marshall never made these two definitions consistent.

This inconsistency arose because the normal supply price concept included a detailed list of production costs in *LRAC*; the normal supply price was expected to cover these costs in the long period before production could be justified. Furthermore, Marshall regarded *all* these as accounting costs which were explicitly given to the firm, neglecting the fact that they may well be implicit or opportunity costs: "...[to calculate] the normal supply price [the producer of woollen cloth] would have to reckon (i) the price of

[13] Even though Marshall regarded all costs as part of *LRAC* when he defined normal supply price, this did not make his treatment of normal supply price equivalent to the 1930s Cambridge writers' treatment of zero NP_N. This was because the latter treatment still regarded some costs to be implicit, while Marshall's description of normal supply price regarded all costs to be explicit.

wool..., (ii) wear-and-tear and depreciation..., (iii) *interest* and insurance on all the capital... (iv) the wages..., (v) *the gross earnings of management*...of those who undertake the risks, who engineer and superintend the working" (ibid.; italics and bracketed words mine). What previously was called "earnings of undertaking or management" was here called "gross earnings of management", signifying the fact that it was simply another given production cost which would have to be considered by the normal supply price calculation. There was no indication here that what Marshall also called "business ability" (Marshall, 1961, v. 2, p. 674) may not be explicitly purchased on the market. Marshall's description of *NP* in Bk. 6, ch. 8 and elsewhere in the *Principles*, was never coordinated with normal supply price in Bk. 5, ch. 3, mainly because the latter concept included such a comprehensive list of production costs that were implied to be easily measurable.

Of this list of 5 necessary costs given in the chapter on normal supply price, only management and interest costs, because Marshall regarded them as "alternative" or "opportunity" costs, were specifically mentioned in the description of NP_G elsewhere in *Principles* [14]. These were implicit costs because in many cases no market transaction took place; the estimate of costs being the required return to the owner of these inputs who should be reimbursed on a non-market basis for providing them. This non-market compensation was to be compared with the "accounting" or gross profits (NP_G) earned by the firm; if NP_G were at least as large, profits would be normal and the firm would continue producing in the long period.

Marshall discussed the concept of NP_G separately from normal supply price [15]; this may be one of the reasons why only the definition of the latter

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[14] Some interpreters of Marshall have gone a step further; they have stated that Marshall chose to emphasize the going management earnings of the representative firm in the long run (and neglect interest) as the *only* important imputed production cost. For these interpreters, this meant that only the average earnings of management would set the required minimum level for NP_G. If NP_G (accounting profits) were just large enough to cover these earnings: $NP_N = NP_G$ − management earnings = zero.

e.g. BLAUG (1978, p. 425), believing that only management earnings should be treated as a necessary cost, seemed to define *NP* in Marshall as consisting exclusively of these costs, leaving out opportunity interest cost altogether: "Marshall's gross earnings seems to correspond to the common (or normal) definition of 'profits' when it is calculated inclusive of wages of management" (bracketed words mine).

(SCHUMPETER, 1954, p. 894, n. 4) made the same qualification: "...Marshall's...treatment of the earnings of management contains the substance of the theory of normal profit".

[15] WHITAKER (1987, p. 358) interpreted MARSHALL (1920, p. 596 which was referring to ibid., last paragraph of Bk. 4, ch. 12, p. 313) in such a way that "the normal return" to the "supply of capital" for a firm is the "market rate of interest". Yet, Marshall referred to interest not as a "normal return", but "the supply price of capital", in the latter reference. Here, both

in Bk. 5, ch. 3, focused on precisely which costs should be part of *LRAC*. Another reason was that NP_G implied positive accounting profits, which meant that only accounting (explicit) costs should be part of *LRAC*. But, NP_G regarded management and interest costs as implicit and Marshall emphasized that these costs should not be part of *LRAC* when positive NP_G was calculated. However, he was not concerned, in almost all of the *Principles*, to illustrate the precise nature of accounting costs which should be part of *LRAC* [16].

The normal supply price concept was implied to be compatible with zero profits, because if the supply price were normal, average revenue would be just high enough to cover all the "normal (or necessary) expenses of production". This seemed to make the concept equivalent to NP_N, which the Cambridge writers of the 1930s emphasized would fall to zero, in long run equilibrium for the representative firm. But, normal supply price was not the same thing as what these writers called zero profits. They did not define zero profits to make it compatible with Marshall's definition of normal supply price because they did not regard zero profits as an accounting concept; some of the factors were allowed to earn a going or average (not a known and measurable) rate of return. For normal supply price, however, the price was just high enough to cover only accounting or explicit costs. Accounting profit was identically zero, even though this conclusion went against the result reached by Marshall elsewhere in the *Principles*; that accounting profit = positive NP_G.

V. *Conclusion*

Exactly what Alfred Marshall meant by the concept of "normal profits' (*NP*) has always been somewhat unclear. This is because he discussed this concept in the *Principles* in a manner that was not always consistent with

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the "supply price" and the "normal return" of capital were the same concepts because they referred to just one necessary cost which must be met in the long run in order for the firm to continue producing a given amount. But, this did not mean that "normal supply price" and *NP* were the same because even though both concepts referred to costs which must be covered in order to maintain a given level of output for a firm in the long period, the list of these costs was so much more detailed for the former than it was for the latter concept.

[16] For the interpreters of Marshall who emphasized only management earnings (and neglected interest) as an imputed production cost, interest would be consigned to the role of an accounting cost and thus be part of Marshall's *LRAC* curve. But, Marshall made very few clear statements on exactly which costs should be regarded as part of *LRAC*, other than in the discussion of normal supply price.

the way that it has been used by subsequent writers. Modern principles books, for example, generally regard *NP* to be the same as long run "zero" profits for a representative firm in a perfectly or even a monopolistic competitive industry. It turns out that this zero profit definition came from the 1930s writings of British economists who were attempting to describe long run equilibrium adjustment for a monopolistic competitive firm. Marshall never stated specifically that long run profits should fall to zero, so part of this paper has sought to justify why these economists described his writings in such a way.

Marshall instead focused on *NP* as being equal, in long run equilibrium, to a minimum positive value which would be just large enough to cover the two imputed (opportunity) costs of interest and management. This minimum value has here been called: "gross" normal profits (NP_G). Moreover, it was an accounting concept, because even though the components of *LRAC* were never specifically listed, it was implied that they were all easily observed; therefore, after subtracting them from average revenue, the remainder was a measure of market profits. Even though Marshall never illustrated in detail how to calculate NP_G, it was clear from his discussion that interest and management cost should not be regarded as part of *LRAC*.

The 1930s writers, on the other hand, treated all costs, both imputed and directly measurable, as part of *LRAC* when they argued that normal implied zero profits. Furthermore, these later writers recognized that zero profits was not an accounting concept, because it included as part of *LRAC* the two costs that Marshall regarded as imputed. This zero profits concept has here been called: "net" normal profits (NP_N) because of the all-inclusive nature of costs. But, since Marshall never stated clearly that normal profits would fall to zero in the long run, NP_N should be regarded as an "after-Marshall" construct.

Marshall did describe a concept called: "normal supply price" in the *Principles*, however. It had some similarities with NP_N and even implied that profits would fall to zero in long run equilibrium for the representative firm if the normal price were just met. This idea may have given later writers a justification for describing normal as zero profits. But, this paper has shown that normal supply price was a confusing concept that should not be mistaken for normal profits. Although profits may fall to zero, Marshall treated normal supply price quite a bit differently from the way he treated *NP*. This was because *LRAC* included all costs, even the return to management and interest; furthermore, and even more important, these costs were regarded as directly measurable (accounting costs). The supply price was then regarded as an average revenue concept which would be directly

compared with all average costs. Eliminating the idea that some costs should be regarded as implicit meant that there was no difference between gross and net profits. Furthermore, accounting profits would fall to zero (it would no longer be positive) when the supply price was normal.

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MARSHALL SUI PROFITTI NORMALI

Alfred Marshall ha reso famoso nei suoi *Principles* il concetto di « profitti normali ». Altri autori che dopo di lui hanno scritto su argomenti micro-economici hanno usato questo concetto. Questo articolo mostra che la versione piú « moderna » di profitti normali nulli non è esattamente la stessa cosa che Marshall aveva in mente. Marshall descrive dapprima un concetto di profitto normale « lordo » o « contabile » per l'impresa rappresentativa, per la quale questo è positivo. Poi asserisce che se i profitti lordi coprono appena la remunerazione corrente della direzione e il costo opportunità degli interessi, allora sono nulli soltanto i profitti « netti ». Qui si mostra che anche il concetto Marshalliano di « prezzo normale di offerta », implica profitti netti nulli, ma trascurando questi costi opportunità; perciò questo concetto si riferisce soltanto ai profitti contabili.

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IS PREANNOUNCEMENT ROBUST TO DISTORTED MESSAGES?

by
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Introduction

The practice of preannouncing the intention to place orders on a market for risky assets, known as sunshine trading [1], aims at persuading the market that the preannouncer wishes to trade on an informationless basis: any gain from privileged information would be dissipated by the preannouncement. This should bring about a better matching of the investors' demand for and supply of "immediacy" (Grossman and Miller, 1988) and should increase the liquidity of the market for uninformed traders.

In a competitive market where risk-averse speculators, announcers and non announcers trade with each other, three are the main effects of preannouncement. First, it reduces the *adverse selection cost* for announcers and increases it for non announcers. Second, it reduces the variance of liquidity demand, which, in a one shot model, reduces both the *risk bearing cost* for all liquidity traders and the surplus that speculators can extract from any given position. Third, if it is assumed that investors must incur a fixed cost in order to trade on the market, preannouncement may produce the *liquid-*

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[1] According to ADMATI and PFLEIDERER (1991), this practice was used on a limited and informal basis by the portfolio insurance firm of Leland, O'Brien and Rubinstein. Later the Commodity Futures Trading Commission was exhorted to revise sunshine trading in order to distinguish it from prearranged trading and to adequately publicize it. See MILLER et al. (1989) for further details.

ity-entry effect, because it may induce more traders to bear the fixed cost and enter the market.

Admati and Pfleiderer (1991) build a competitive rational expectations model and show that, if announcers send *correct* preannouncements, i.e. they trade exactly the same number of shares they preannounced they would, they strictly prefer preannouncement of their demands than no preannouncement at all. They also show that when preannouncement takes place in a market without fixed entry costs, the savings in expected costs by all liquidity traders are higher than the welfare losses for all risk averse speculators. Finally, introducing a fixed entry cost and assuming no private information, Admati and Pfleiderer show that preannouncement makes speculators better off and – if the entry cost is high – it increases the size of the market and lowers the expected trading costs for announcers.

The following analysis has the objective of investigating how these conclusions change if it is assumed that announcers may either make *mistaken* or *fraudulent* preannouncements. A preannouncement is mistaken if the quantity traded by the announcer is either higher or lower than the quantity he preannounced. A preannouncement is fraudulent if the announcer deliberately preannounces a different quantity from that which he is planning to trade.

This paper investigates whether, under these new hypotheses, it is still convenient for the announcer to send correct messages or whether it is preferable for him to cheat by overstating or understating the quantity he is planning to trade.

In order to answer this question it is necessary to analyse how different kinds of preannouncements affect the expected trading costs for liquidity traders, in particular for announcers. First, I use a model with asymmetric information to evaluate how a change in the adverse selection costs and in the variance of liquidity demand influences the welfare of liquidity traders and of speculators. Subsequently, in order to investigate the liquidity – entry effect of distorted preannouncements, I remove the hypothesis of asymmetric private information and introduce a fixed *entry cost*.

The topic discussed in this paper presents several related issues which have been recently examined.

Röell (1991) shows that dual capacity trading reduces transaction costs for liquidity traders. The reason is that, if broker-dealers can identify liquidity motivated traders, they will satisfy part of their orders from their own inventories. It follows that, if liquidity traders can preannounce their orders, they can be recognized more easily as informationless traders and their welfare increases.

Preannouncement can therefore be considered as a more general case than that analysed by Röell (1991), with the difference that in this case the relationship of "trust" between the client and the broker-dealer is extended to the whole market.

1. *The Model with Asymmetric Private Information*

The setting investigated by this model is one in which a continuum $a \in [0, 1]$ of risk averse speculators faces two groups of liquidity traders. One group is formed by people who are named announcers because they preannounce their individual demand; this demand is equal to $\tilde{l}$ with variance L [2]. The other group is formed by those liquidity traders who are not interested, or who have not the opportunity, to make preannouncement and for this reason they are named non announcers. Non announcers demand a quantity of risky assets *per speculator* equal to $\tilde{n}$, with variance N.

The structure of the model is based on the competitive rational expectations model of Admati and Pfleiderer (1991) and differs from it because here it is assumed that announcers can make mistakes or can send fraudulent preannouncements.

Admati and Pfleiderer (1991), in their turn, restrict Admati (1985) [3] framework to the case in which:

– one single risky asset is traded with payoff $\tilde{\mathfrak{F}} \sim N(0, 1)$ in period 2;

– the riskless asset is valued 1 both in period 1, when only trading takes place, and in period 2, when traders only consume;

– the degree of risk aversion is the same for all speculators and equal to 1;

– speculators are all asymmetrically informed, i.e. prior to trading

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[2] For simplicity the variances of the random variables are denoted with capital letters: for example, if l is the preannounced demand, L is its variance.

[3] It should be noticed that in the ADMATI (1985) model with a continuum of speculators there is a closed form solution for the equilibrium price function, which is not the limit of an intractable finite-agents economy equilibrium, as in HELLWIG (1980). The hypothesis of a great market or of a continuum of agents is therefore necessary if one wants to get rid of the embarrassing drawback which characterizes previous models with rational expectation and asymmetric information, as in DIAMOND and VERRECCHIA (1981). There, agents forming portfolios do not take into account the effect of their choices on the equilibrium price, although they must be aware of the importance of the covariance between their signal and the market price. See RINDI (1994) for a more detailed discussion on this point.

they observe the signal $\tilde{y}_a = \tilde{\mathfrak{F}} + \tilde{y}_a$, where $\tilde{y}_a \sim N(0, \Gamma)$ and where the random variable $\tilde{y}$ is *i.i.d.* across agents a ($a \in [0, 1]$);

– all the random variables, which are Normally distributed and mutually independent, have zero mean.

Other than the hypothesis of Normality, which is also present in Admati (1985) and which is crucial in order to find a solution to the rational expectations competitive equilibrium, all other hypotheses greatly simplify the notation but do not affect the results of the analysis.

We look for a *Rational Expectations Equilibrium*, i.e. an allocation such that the market clears and speculators maximize their expected utility function taking into account their private information and the information they can extract from the equilibrium price.

Under the above hypotheses, if preannouncement is not allowed the linear rational expectations equilibrium price is [4].

$$p^* = a_1^* \tilde{\mathfrak{F}} + a_2^* (\tilde{l} + \tilde{n} + \tilde{q}) \tag{1}$$

with

$$a_1^* = \frac{\Gamma(L + N + Q) + 1}{(\Gamma^2 + \Gamma)(L + N + Q) + 1} \qquad a_2^* = \frac{\Gamma(\Gamma(L + N + Q) + 1)}{(\Gamma^2 + \Gamma)(L + N + Q) + 1}$$

It should be remarked that the equilibrium price is an increasing function of $\tilde{\mathfrak{F}}$, the future value of the asset and of the total unpredictable *net demand* of liquidity traders, $\tilde{l} + \tilde{n} + \tilde{q}$.

If announcers decide to make correct preannouncements, i.e. they preannounce their intention to trade a certain quantity of risky assets and then they do actually trade exactly the same quantity as preannounced, the equilibrium price function becomes:

$$\check{p} = \check{a}_0 + \check{a}_1 \tilde{\mathfrak{F}} + \check{a}_2 \tilde{n} \tag{2}$$

with

$$\check{a}_0 = \frac{\Gamma^2 N(l + q)}{(\Gamma^2 + \Gamma) N + 1} \qquad \check{a}_1 = \frac{\Gamma N + 1}{(\Gamma^2 + \Gamma) N + 1}$$

$$\check{a}_2 = \frac{\Gamma(\Gamma N + 1)}{(\Gamma^2 + \Gamma) N + 1}$$

if the quantity they preannounce is equal to $l + q$;

[4] The solution to the model is derived in the Appendix, where the case of mistaken preannouncement, which is introduced below, is analysed in detail.

whereas the equilibrium price function is:

$$\bar{p} = \bar{a}_0 + \bar{a}_1 \tilde{\mathfrak{F}} + \bar{a}_2 (\tilde{n} + \tilde{q}) \tag{3}$$

with

$$\bar{a}_0 = \frac{\Gamma^2 (N + Q) l}{(\Gamma^2 + \Gamma)(N + Q) + 1} \qquad \bar{a}_1 = \frac{\Gamma (N + Q) + 1}{(\Gamma^2 + \Gamma)(N + Q) + 1}$$

$$\bar{a}_2 = \frac{\Gamma (\Gamma (N + Q) + 1)}{(\Gamma^2 + \Gamma)(N + Q) + 1}$$

if the quantity preannounced is equal to l.

The first issue to be investigated here is the following: do announcers have an incentive to cheat the market by preannouncing a quantity of assets greater than the one they actually intend to trade?

In other words, is the equilibrium obtained by assuming that announcers send correct preannouncements robust to fraud?

Proposition 1.1 *i) The equilibrium obtained with correct preannouncements is robust if announcers are* pure *noise traders.*
ii) If, on the other hand, it is assumed that announcers, even though they trade randomly, strategically decide to deviate from the equilibrium with correct preannouncement, such equilibrium collapses.

In order to demonstrate Proposition 1.1.ii, let's assume that announcers preannounce a quantity $l + q$ with the intention to trade a quantity l. In this case, the equilibrium price function is obtained by maintaining the strategy of the other investors – i.e. speculators and non announcers – and by assuming that announcers deviate from the equilibrium with preannouncement equal to $l + q$ in order to trade on the market a quantity equal to l.

The result is:

$$\hat{p} = \hat{a}_0 + \hat{a}_1 \tilde{\mathfrak{F}} + \hat{a}_2 (\tilde{n} - \tilde{q}) = \check{a}_0 + \check{a}_1 \tilde{\mathfrak{F}} + \check{a}_2 (\tilde{n} - \tilde{q}) \tag{4}$$

Given this price function, the costs fraudulent announcers have to bear in order to trade on the market a quantity equal to l are:

$$\hat{C}_l = E[\tilde{l}(\hat{p} - \tilde{\mathfrak{F}})] = E[\hat{a}_0 \tilde{l}] = \frac{\Gamma^2 N}{[(\Gamma + \Gamma^2) N + 1]} L$$

In order to analyse whether it is advantageous for announcers to use fraudulent preannouncements, one must compare $\hat{C}_l$ with the costs that the same liquidity traders would have to bear if, with the objective to trade the same quantity of assets, they made correct preannouncements. In the latter situation the expected trading costs would be equal to:

$$\bar{C}_l = E[\tilde{l}(\tilde{p} - \tilde{\mathfrak{F}})] = E[\bar{a}_0 \tilde{l}] = \frac{\Gamma^2 (N + Q)}{[(\Gamma + \Gamma^2)(N + Q) + 1]} L$$

Since $\hat{a}_0 < \bar{a}_0$, announcers have an advantage to deviate from the equilibrium with correct preannouncements.

This result needs to be qualified. Announcers, such as they are described by this model, are originally noise traders, i.e. non-strategic traders; however when, having sent a preannouncement to the market, they decide to deviate and trade a different quantity of assets from that which they had preannounced, they behave like strategic operators. It follows that their objective function should be taken into account and their strategic behaviour should be formalized. This change to the model would however make it analytically intractable.

Therefore, one can only conclude that if announcers are *pure* noise traders, i.e. they do not behave strategically, the equilibrium with correct preannouncement is robust to fraud. This proves item (i) of Proposition 1.1.

Let's now introduce the following hypotheses: announcers can make mistaken preannouncements, i.e. they can preannounce a quantity equal to l and then trade a quantity equal to

$l + \tilde{v}$ with
$\tilde{v} \sim N(0, A)$ and $L > A$ [5].

One may ask how do the equilibrium price and the traders' welfare change when announcers send mistaken preannouncements to the market.

When announcers send mistaken preannouncements, the rational expectations equilibrium price function is [6]:

$$\ddot{p} = \ddot{a}_0 + \ddot{a}_1 \tilde{\mathfrak{F}} + \ddot{a}_2 (\tilde{n} + \tilde{q} + \tilde{v}) \tag{5}$$

with

$$\ddot{a}_0 = \frac{\Gamma^2 (N + Q + A) l}{(\Gamma^2 + \Gamma)(N + Q + A) + 1} \qquad \ddot{a}_1 = \frac{\Gamma (N + Q + A) + 1}{(\Gamma^2 + \Gamma)(N + Q + A) + 1}$$

$$\ddot{a}_2 = \frac{\Gamma (\Gamma (N + Q + A) + 1)}{(\Gamma^2 + \Gamma)(N + Q + A) + 1}$$

[5] The $L > A$ hypothesis can be justified by assuming that the variance of the liquidity traders' net demand is proportional to the quantity they demand. Hence if $l > \bar{v}$ it follows that $L > A$.

[6] See the Appendix where the model with mistaken preannouncement is explicitly derived.

In order to see how the welfare of speculators changes under the different regimes of preannouncements, we compare the expected trading costs for announcers, non announcers and speculators with the case of correct preannouncement, mistaken preannouncement and no preannouncement.

I) When preannouncement is mistaken, the total expected costs for non announcers are equal to:

$$\ddot{C}_n = E[\tilde{n}(\ddot{p} - \tilde{\mathcal{F}})] = E[\ddot{a}_2 \tilde{n}]$$

whereas the total expected trading costs for announcers are equal to:

$$\ddot{C}_l = E[(\tilde{l} + \tilde{v})(\ddot{p} - \tilde{\mathcal{F}})] = E[\ddot{a}_0 \tilde{l}] + E[\ddot{a}_2 \tilde{v}]$$

II) When preannouncement is correct, the total expected trading costs for non announcers are equal to:

$$\bar{C}_n = E[\tilde{n}(\bar{p} - \tilde{\mathcal{F}})] = E[\bar{a}_2 \tilde{n}]$$

whereas, as mentioned above, the total expected trading costs for announcers are equal to:

$$\bar{C}_l = E[\tilde{l}(\bar{p} - \tilde{\mathcal{F}})] = E[\bar{a}_0 \tilde{l}]$$

III) When there is no preannouncement, the total expected trading costs for non announcers are equal to:

$$C_n^* = E[\tilde{n}(p^* - \tilde{\mathcal{F}})] = E[a_2^* \tilde{n}]$$

whereas the total expected trading costs for potential announcers are equal to:

$$C_l^* = E[\tilde{l}(p^* - \tilde{\mathcal{F}})] = E[a_2^* \tilde{l}]$$

Following Admati and Pfleiderer (1991), the two components of the total costs for liquidity traders, namely the risk bearing and the adverse selection costs, will be separately considered for the different regimes and then compared. In the Admati and Pfleiderer (1991) framework, in which announcers make correct preannouncements, a reduction of the variance of the unpredictable liquidity demand – which correct preannouncement brings about – reduces the riskiness of the risky asset perceived by speculators. This reduces the risk bearing cost that liquidity traders must pay to induce risk averse speculators to trade with them. Besides, a correct preannouncement reduces to zero the informational content of the announcers' demand: if speculators believe that announcers are liquidity traders, they will be sure

that their counterparts are non-informed investors and they will claim a smaller adverse selection premium on each transaction. On the contrary, preannouncement increases the adverse selection costs for non announcers.

The following Proposition shows how the trading costs for market traders change under different regimes of preannouncement.

Proposition 1.2 *I) Non-announcers benefit from noise and consequently prefer the noisier*[7] *regime (no preannouncement* $\succ$ *mistaken preannouncement* $\succ$ *correct preannouncement).*
II) If L is sufficiently high, announcers' welfare decreases as noise increases: announcers prefer the less noisy regime (correct preannouncement $\succ$ *mistaken preannouncement* $\succ$ *no preannouncement).*
III) If $N > 1$, *the total expected costs for all liquidity traders is lower with correct preannouncement than with mistaken preannouncement. If L, the variance of announcers' demand, is sufficiently high, liquidity traders prefer the regime with mistaken preannouncement to the regime with no preannouncement (correct preannouncement* $\succ$ *mistaken preannouncement* $\succ$ *no preannouncement).*
IV) If L is sufficiently high, the noisier the regime, the higher the ex ante expected utility of the risk averse speculators. Speculators prefer the regime with no preannouncement to the regime with preannouncement; they prefer mistaken to correct preannouncement (no preannouncement $\succ$ *mistaken preannouncement* $\succ$ *correct preannouncement).*
Proof: See Appendix.

Non announcers prefer the noisier regime because when the noise increases the higher variance of the unpredictable liquidity demand brings about a reduction of their adverse selection costs which outweights the increase of the risk bearing costs. Table 1 shows how the risk bearing and the adverse selection costs for non announcers are affected by the different regimes of preannouncement.

Announcers prefer the less noisy regime. Table 1 shows that this conclusion can be straightforwardly drawn if one considers the three cases of no preannouncement, fraudulent preannouncement and correct preannouncement of l. Under the latter two regimes or preannouncement, announcers trade the same quantity l, of risky assets as they had previously preannounced and, as a consequence, they don't pay any adverse selection cost on this quantity. On the other hand, announcers pay a risk bearing cost

[7] Notice that "noisy" is used here to qualify the regime with high unpredictable liquidity demand.

on l which decreases as the variance of the unpredictable liquidity demand decreases. This explains why announcers, generally speaking, benefit from preannouncement (whether correct or fraudulent) and why, more specifically, they prefer fraudulent to correct preannouncements.

As opposed to the other preannouncement regimes, when announcers send mistaken preannouncements, they do not always benefit from preannouncement. Compared with the no preannouncement regime, a mistaken preannouncement lowers the adverse selection costs [8]; a mistaken preannouncement also lowers the conditional variance of $\tilde{\mathcal{F}}$ and, as a consequence, it reduces the risk bearing costs for announcers on the preannounced quantity l. However, with a mistaken preannouncement, announcers carry an extra risk bearing cost on $\tilde{v}$, which is equal to $\dot{V}A$. It follows that, if the reduction in the variance of the announcers' demand induced by preannouncement is not sufficiently high to compensate, with a reduction of the

TABLE 1

LIQUIDITY TRADERS' EXPECTED TRADING COSTS

Regime		Non announcers	Announcers
p^*	R.b.c. †	$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2(N+L+Q)}\right)^{-1}N$	$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2(N+L+Q)}\right)^{-1}L$
	A.s.c. ∓	$\frac{\Gamma N}{(\Gamma^2+\Gamma)(N+L+Q)+1}$	$\frac{\Gamma L}{(\Gamma^2+\Gamma)(N+L+Q)+1}$
$\check{p}$	R.b.c.	$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2(N+Q+A)}\right)^{-1}N$	$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2(N+Q+A)}\right)^{-1}(L+A)$
	A.s.c.	$\frac{\Gamma N}{(\Gamma^2+\Gamma)(N+Q+A)+1}$	$\frac{\Gamma A}{(\Gamma^2+\Gamma)(N+Q+A)+1}$
$\hat{p}$	R.b.c.		$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2 N)}\right)^{-1}L$
	A.s.c.		0
$\check{p}$	R.b.c.		$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2 N)}\right)^{-1}(L+Q)$
	A.s.c.		0
$\tilde{p}$	R.b.c.	$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2(N+Q)}\right)^{-1}N$	$\left(1+\frac{1}{\Gamma}+\frac{1}{\Gamma^2(N+Q)}\right)^{-1}L$
	A.s.c.	$\frac{\Gamma N}{(\Gamma^2+\Gamma)(N+Q)+1}$	0

† Risk bearing costs; ∓ Adverse selection costs.

[8] It should be reminded that it has been assumed that $L > A$.

adverse selection costs, such increase in the risk bearing costs, announcers could prefer the regime without preannouncement to the regime with mistaken preannouncement.

Finally, as far as the total welfare of all liquidity traders is concerned, from Table 1 it is possible to argue that the worst regime is the one without preannouncement.

Part *IV* of Proposition 1.1 states that, if the variance of the unpredictable liquidity demand is high, speculators prefer the noisier regime.

Table 2 shows how preannouncement affects the two components, Σ and Ω, of speculators' ex ante expected utility [9]. If L is high [10], a reduction in the variance of the unpredictable liquidity demand reduces the conditional variance of $\tilde{\mathcal{F}}$ and the variance of the forecast error [11]. The reduction in the forecast error by liquidity traders reduces the surplus speculators can extract from any given position in risky assets. On the other hand, a reduction in the conditional variance of $\tilde{\mathcal{F}}$ reduces the riskiness of the risky assets and consequently increases the unconditional expected utility of risk averse speculators. If L is sufficiently high, the former effect will prevail and the expected utility of speculators will be reduced as a consequence of preannouncement.

2. *The Model with Fixed Entry Costs for Speculators*

It has already been shown that preannouncement affects market traders' welfare by changing the risk bearing and the adverse selection costs they incur. It has already been underlined that there is a third effect brought about by preannouncement, namely the "liquidity-entry" effect: preannouncement should induce more speculators to pay the fixed cost b and enter the market for risky assets. This might increase the supply of immediacy and create more favourable conditions for liquidity traders. In such a model with fixed entry costs the fraction of speculators who enter the market is endogenous and equal to $\alpha \in (0, 1)$.

Each announcer's demand (or supply) of risky assets is equal to

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[9] See the Appendix, where Σ and Ω are defined and interpreted.

[10] See the Appendix, where the exact condition is derived.

[11] From Table 2 one can notice how $\operatorname{var}(\tilde{\mathcal{F}} \mid y_{\alpha}, p)$ is a positive function of the variance of the unpredictable demand. Furthermore, one can see from the Appendix that, if L is sufficiently high, the ratio Σ/Ω increases due to preannouncement; it follows that preannouncement reduces the variance of the forecast error.

TABLE 2

SPECULATORS' EX ANTE EXPECTED UTILITY: AN ANALYSIS

$p^* = a_1^* \tilde{\theta} + a_2^* (\tilde{n} + \tilde{l})$ *No preannouncement*		$\ddot{p} = \ddot{a}_0 + \ddot{a}_1 \tilde{\theta} + \ddot{a}_2 (\tilde{n} - \tilde{v})$ *Mistaken preannouncement*		$\bar{p} = \bar{a}_0 + \bar{a}_1 \tilde{\theta} + \bar{a}_2 \tilde{n}$ *Correct preannouncement*
$\text{Var}(\tilde{\theta} \mid \tilde{y}_a, p^*) = \Sigma^* =$ $[1 + \Gamma^{-1} + \Gamma^{-2}(N+L)^{-1}]^{-1}$	$>$	$\text{Var}(\tilde{\theta} \mid \tilde{y}_a, \ddot{p}) = \ddot{\Sigma} =$ $[1 + \Gamma^{-1} + \Gamma^{-2}(N+A)^{-1}]^{-1}$	$>$	$\text{Var}(\tilde{\theta} \mid \tilde{y}_a, \bar{p}) = \bar{\Sigma} =$ $[1 + \Gamma^{-1} + \Gamma^{-2} N^{-1}]^{-1}$
$\text{Var}(\tilde{\theta} - p^*) = \Omega^* =$ $\frac{\Gamma^2(L+N)(1+2\Gamma(L+N)+\Gamma^2(L+N)+\Gamma^2(L+N)^2)}{(1+(\Gamma+\Gamma^2)(L+N))^2}$	$>$	$\text{Var}(\tilde{\theta} - \ddot{p}) = \ddot{\Omega} =$ $\frac{\Gamma^2(N+A)(1+2\Gamma(N+A)+\Gamma^2(1+L)(N+A)+\Gamma^2(N+A)^2)}{(1+(\Gamma+\Gamma^2)(N+A))^2}$	$>$	$\text{Var}(\tilde{\theta} - \bar{p}) = \bar{\Omega} =$ $\frac{\Gamma^2 N(1+(2\Gamma+\Gamma^2)N+\Gamma^2 N(L+N))}{(1+(\Gamma+\Gamma^2)N)^2}$
$\frac{\Sigma^*}{\Omega^*} =$ $\frac{1+(\Gamma+\Gamma^2)(L+N)}{1+2\Gamma(L+N)+\Gamma^2(L+N)+\Gamma^2(L+N)^2}$	$<$	$\frac{\ddot{\Sigma}}{\ddot{\Omega}} =$ $\frac{1+(\Gamma+\Gamma^2)(N+A)}{1+2\Gamma(N+A)+\Gamma^2(1+L)(N+A)+\Gamma^2(N+A)^2}$	$<$	$\frac{\bar{\Sigma}}{\bar{\Omega}} =$ $\frac{1+(\Gamma+\Gamma^2)N}{1+(2\Gamma+\Gamma^2)N+\Gamma^2 N(L+N)}$
$E(U \mid \tilde{y}_a, p^*)$	$>$	$E(U \mid \tilde{y}_a, \ddot{p})$	$>$	$E(U \mid \tilde{y}_a, \bar{p})$

$+ (-) \tilde{l}$ when $\alpha = 1$; similarly, non announcer's *per speculator* demand is equal to $\tilde{n}$. Therefore, if the market clearing condition must be satisfied, each speculator chooses to buy (or sell) a quantity equal to $-(+)(\tilde{l} + \tilde{n})$.

Assuming a symmetric private information setting, the demand function of a risk averse speculator is equal to

$$\frac{E(\tilde{\mathfrak{F}} \mid \tilde{p}) - \tilde{p}}{\text{Var}(\tilde{\mathfrak{F}} \mid \tilde{p})} = -\tilde{p}.$$

Consequently, when no preannouncement takes place and the market for risky assets clears, the equilibrium price is equal to

$$\tilde{p} = \frac{\tilde{l} + \tilde{n}}{\alpha}.$$

The reason why in this section the liquidity-entry effect is analysed in a symmetric private information framework is that an integrated model of asymmetric private information and fixed entry cost is analytically very complex. Nevertheless, by referring to the Admati and Pfleiderer (1991) framework, it is possible to show how the two models can easily be reconciled.

Corollary 2.1 *Let* $C_l^{**} = -E[\tilde{l}(\tilde{\mathfrak{F}} - p^*)] = -E\left[\tilde{l}\left(\tilde{\mathfrak{F}} - \frac{(\tilde{l} + \tilde{n})}{\alpha(L, b)}\right)\right] =$

$E\left[\frac{\tilde{l}^2}{\alpha(L, b)}\right] = \frac{L}{\alpha(L, b)}$ *be the expected trading costs for announcers in the model with entry costs and no preannouncement, and let*

$$C_l^* = \frac{L}{1 + \frac{1}{\Gamma} + \frac{1}{\Gamma^2(L + N)}} + \frac{\Gamma L}{1 + (\Gamma + \Gamma^2)(L + N)}$$ *be the expected*

trading costs for announcers in the model with asymmetric private information, no entry costs and no preannouncement.

If α *is set equal to* 1, *then* $\lim_{\Gamma \to \infty} \frac{C_l^{**}}{C_l^*} = 1.$

Proof: omitted.

Note that if α is set equal to 1, it is implicitly assumed that all speculators enter the market and the situation of the model with no entry

costs is restored. Besides, if Γ approaches infinity, the precision of the signal that privately informed speculators receive in the asymmetric information regime, $[\text{var}(\tilde{y}_a)]^{-1} = \tilde{\mathcal{F}} + \tilde{y}_a$, goes to zero as if no private information existed.

The objective of the analysis of this section is to assess whether the liquidity-entry effect creates an incentive for announcers to send fraudulent preannouncements, or whether the conclusions of Section 1 may also hold in a market with entry costs.

For this reason we investigate whether the expected trading costs for liquidity traders are higher with correct, fraudulent or mistaken preannouncement.

From Proposition 3.1 of Admati and Pfleiderer (1987) it follows that, under the conditions specified above, the speculator's ex ante expected utility, when he enters the market and pay the fixed cost b, is equal to:

$$-\sqrt{\frac{\text{Var}(\tilde{\mathcal{F}} \mid \tilde{p})}{\text{Var}(\tilde{\mathcal{F}} - \tilde{p})}} \exp\left(-w + b - \frac{1}{2}\frac{E^2)\tilde{\mathcal{F}} - \tilde{p})}{\text{Var}(\tilde{\mathcal{F}} - \tilde{p})}\right) \tag{6}$$

By equating expression (6) to the ex ante expected utility of the speculator who doesn't enter the market, $-exp(-w)$, and solving for α, the fraction of speculators who enter the market can be calculated.

Now we are able to compare the three cases of correct, fraudulent and mistaken preannouncement. Table 3 shows the price functions and the ex ante expected utility of a speculator under the three regimes.

From Table 3, it can be noticed that there is no closed form solution for α in either of the three cases. Notwithstanding this, it is possible to draw inferences on the welfare of liquidity traders and of speculators under the different regimes by examining the ex ante expected utility of speculators.

When comparing mistaken and fraudulent preannouncement with correct preannouncement [12], one can see that, in the case of mistaken preannouncement the speculators' ex ante expected utility and therefore the number of informed traders who are willing to keep on trading are modified solely due to the change in the variance of the unpredictable liquidity

[12] Notice that in order to carry out comparisons with the correct preannouncement case, one must use $\tilde{p}$ instead of $\hat{p}$. The reason is that one is interested in analysing the benefit from preannouncement for an announcer who actually trades on the market a quantity equal to l. Table 3 also shows the case in which the price is equal to $\hat{p}$ due to the fact that, as in Section 1 in the regime without the endogenous entry of informed traders, the solution for $\hat{p}$ is obtained by supposing that announcers deviate from an equilibrium situation in which they had preannounced a quantity equal to $l + q$ and they had then traded a quantity equal to l.

TABLE 3

SPECULATORS' EX ANTE EXPECTED UTILITY

$\check{p} = \frac{\tilde{l}+\tilde{q}+\tilde{n}}{\check{\alpha}(\tilde{l}+\tilde{q}, N, b)}$ *Correct preannouncement of* $\tilde{l}+\tilde{q}$	$\check{\Psi} = -\left(1+\frac{N}{\check{\alpha}^2}\right)^{-\frac{1}{2}} \exp\left(-\frac{(\tilde{l}+\tilde{q})^2}{2(\check{\alpha}^2+N)} - w + b\right)$
$\hat{p} = \frac{\tilde{l}+\tilde{n}}{\hat{\alpha}(\tilde{l}+\tilde{q}, N, b)}$ *Fraudulent preannouncement*	$\hat{\Psi} = -\left(1+\frac{N}{\hat{\alpha}^2}\right)^{-\frac{1}{2}} \exp\left(-\frac{(\tilde{l}+\tilde{q})^2}{2(\hat{\alpha}^2+N)} - w + b\right)$
$\bar{p} = \frac{\tilde{l}+\tilde{q}+\tilde{n}}{\bar{\alpha}(\tilde{l}, N, Q, b)}$ *Correct preannouncement of* $\tilde{l}$	$\bar{\Psi} = -\left(1+\frac{N+Q}{\bar{\alpha}^2}\right)^{-\frac{1}{2}} \exp\left(-\frac{\tilde{l}^2}{2(\bar{\alpha}^2+N+Q)} - w + b\right)$
$\ddot{p} = \frac{\tilde{l}+\tilde{n}+\tilde{v}}{\ddot{\alpha}(\tilde{l}, N, A, Q, b)}$ *Mistaken preannouncement*	$\ddot{\Psi} = -\left(1+\frac{N+A+Q}{\ddot{\alpha}^2}\right)^{-\frac{1}{2}} \exp\left(-\frac{\tilde{l}^2}{2(\ddot{\alpha}^2+N+A+Q)} - w + b\right)$

demand. Hence, by examining the elasticity of α to the noise's variance, it is possible to know in which direction α changes because of preannouncement.

When announcers send a fraudulent preannouncement the two parameters which characterize the ex ante expected utility of speculators change: the variance of the unpredictable liquidity demand – which is reduced by Q – and the quantity of the risky assets equal to $l + q$ under this regime and equal to l with correct preannouncement. In order to analyse the effect of preannouncements on the welfare of speculators, it is necessary to consider both these variations together. The results of this analysis, which is detailed in the Appendix, are summarized by the following Proposition:

Proposition 2.1 *Under the hypotheses of symmetric private information and fixed entry costs:*
I) If the preannounced quantity $\tilde{l}$ *is such that* $\tilde{l} > -(\alpha^2 + N) + \sqrt{(\alpha^2 + N)^2 + (\alpha^2 + N)}$ *then announcers have an incentive to cheat and the conclusions to the first section on fraudulent preannouncement are here confirmed (fraudulent preannouncement* $\succ$ *correct preannouncement; fraudu-*

lent preannouncement $\succ$ *mistaken preannouncement); the effect of mistaken preannouncement on announcers' wealth is ambiguous* [13];

II) if $\tilde{l} > \sqrt{\alpha^2 + N}$, [14]
[II.1] announcers prefer correct to mistaken preannouncement (fraudulent preannouncement $\succ$ *correct preannouncement* $\succ$ *mistaken preannouncement); [II.2] non announcers and speculators do not draw any advantage from noise, whereas they benefit from the increase in the quantity of preannounced assets (fraudulent preannouncement* $\succ$ *correct preannouncement* $\succ$ *mistaken preannouncement* $\succ$ *no preannouncement).*
III) If the quantity of preannounced assets $\tilde{l}$ *is small,* i.e. $\tilde{l} < -(\alpha^2 + N) + \sqrt{(\alpha^2 + N)^2 + (\alpha^2 + N)}$,
[III.1] announcers do not draw any advantage from fraudulent preannouncement and the conclusions of Admati and Pfleiderer (1991) *on sunshine trading are confirmed (correct preannouncement* $\succ$ *fraudulent preannouncement); [III.2] mistaken preannouncement reduces announcers' welfare (no preannouncement* $\succ$ *mistaken preannouncement);*

IV) *if* $\tilde{l} < \sqrt{\alpha^2 + N}$, *then mistaken preannouncement increases non announcers' and speculators' welfare (no preannouncement* $\succ$ *mistaken preannouncement* $\succ$ *correct preannouncement).*
Proof: See Appendix.

From Proposition 2.1 it follows that, if the quantity preannounced is small, then announcers do not have any incentive to cheat and sunshine trading can be undertaken without causing any credibility problem.

On the contrary, in all other situations when $\tilde{l} > \sqrt{\alpha^2 + N}$, announcers have an incentive to send fraudulent preannouncements and the conclusions of Section 1 are confirmed.

It has already been stressed that the effects of preannouncement on the trading costs of announcers depend upon the effects of preannouncement on

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[13] This means that in such a situation it is not possible to verify whether announcers prefer the no preannouncement regime to the mistaken preannouncement regime.

[14] Notice here that if the condition $\tilde{l} > \sqrt{\alpha^2 + N}$ holds, then also the condition $\tilde{l} > -(\alpha^2 + N) + \sqrt{(\alpha^2 + N)^2 + (\alpha^2 + N)}$ holds.

the ex ante expected utility of speculators: if preannouncement increases the welfare of speculators – α increases – more speculators enter the market and the supply of immediacy increases.

By comparing the speculators' ex ante expected utility under the two regimes of correct and fraudulent preannouncement, one can notice that in the latter situation, on the one hand the quantity preannounced is greater (and this should induce a greater number of traders to pay the fixed cost b and enter the market), on the other hand the noise is lower and so too the surplus that speculators can extract from any given position.

When the variance of liquidity traders' demand decreases, traders make fewer forecasting errors on the future value of the risky asset, thus reducing speculators' potential gains from trade.

If a small quantity of risky assets is preannounced the second effect prevails, whereas if $\tilde{l} > -(\alpha^2 + N) + \sqrt{(\alpha^2 + N)^2 + (\alpha^2 + N)}$ the first effect prevails and there will be a greater number of speculators who are willing to trade on the market.

This result shows that, in a market with endogenous entry of speculators and no adverse selection costs, announcers generally benefit from fraud: the reason is that the increase in the degree of market liquidity which is caused by the arrival of new speculators takes here the place of the reduction in the adverse selection costs which is brought about by preannouncement in the asymmetric information model. One can conjecture that a model with asymmetric information and fixed entry costs would produce even more robust results on the advantage which fraud brings to announcers [15].

Conclusions

In this paper the effects of preannouncement on the equilibrium price of risky assets and on the ex ante expected trading costs of market traders have been investigated. Admati and Pfleiderer (1991) have analysed this topic and have shown that preannouncement increases the welfare of those liquidity traders who preannounce their intention to trade in the near future. They have also shown that the reduction of trading costs by which announcers could profit when making preannouncement is higher than the disadvantages that preannouncement brings to the remaining market traders.

[15] One such model is described in Rindi (1993*a*).

Consequently, if the practice of preannouncement is introduced, it would lead to a welfare gain for the whole market.

Admati and Pfleiderer (1991) assume that announcers cannot cheat or send mistaken preannouncements. In other words, announcers trade exactly the same number of shares previously announced. This assumption has been removed in this paper and the effect of preannouncement has been investigated assuming that announcers can make mistakes or send fraudulent preannouncements.

First a framework with asymmetric private information has been considered. In this competitive model the rational expectations equilibrium price is formed by a continuum of risk averse speculators who face two groups of liquidity traders, announcers and non announcers.

Within this setting, it has been shown that if announcers are *pure* liquidity traders then the equilibrium price under correct preannouncement is robust. If, on the other hand, it is assumed that announcers can strategically deviate from the equilibrium under correct preannouncement, fraudulent preannouncement is the most favourable regime for those who preannounce. If liquidity traders preannounce their intention to trade a quantity of risky assets greater than that they actually intend on the declared date, their adverse selection costs are brought to zero as under the correct preannouncement regime; the advantage of fraud is that, compared with correct preannouncement, liquidity traders, by announcing a greater quantity, reduce by a greater margin the variance of the noise in the market and by doing so they reduce the risk bearing costs which they incur every time they trade risky assets. This result highlights one limit to the original model used by Admati and Pfleiderer (1991). It would be of interest to ascertain whether, by using a model in which traders behave strategically – *i.e.* an imperfect competition model similar to that used by Rindi (1993b and 1993c) – the equilibrium price with correct preannouncement is robust to fraud.

Within an asymmetric information framework the effect of mistaken preannouncement has been analysed and compared with the correct and no preannouncement regimes. The case with mistaken preannouncement is *noisier* than that of correct preannouncement, but less noisy than that with no preannouncement. It has been demonstrated that, while non announcers and speculators prefer noisier regimes, announcers prefer those regimes which are characterized by a lower variance of the unpredictable liquidity demand.

As the noise increases, non announcers experience a reduction in their adverse selection costs which is greater than the increase in the risk bearing costs; the surplus speculators can extract from any given position increases, while the increase in the risk bearing costs which is caused by the increase

in the noise penalizes announcers, whose adverse selection costs are cancelled by preannouncement.

A second model has been used here to analyse the effect of preannouncement when the number of speculators is endogenous and depends upon a fixed entry cost. The introduction of a fixed entry cost which speculators must bear if they want to enter the market for risky assets is useful in order to evaluate the "liquidity-entry" effect of preannouncement.

The results of this model show that, when the *liquidity effect* substitutes the *adverse selection effect*, it is possible that correct preannouncement is robust to fraud even when liquidity traders deviate from the initial equilibrium. It is demonstrated that, if the quantity preannounced is small, announcers do not draw any benefits from fraudulent preannouncement since it does not increase market liquidity.

This result can be explained by separating the effects that fraudulent preannouncement has on the ex ante expected utility of speculators. The fraudulent preannouncement regime, when compared to the correct preannouncement regime, is characterized by a greater quantity of risky assets being preannounced and by a smaller amount of noise. The greater quantity increases the ex ante expected utility of speculators, while the noise reduction generates two opposite effects: on the one hand it reduces risk bearing costs and consequently it increases speculators' welfare; on the other hand, by reducing the variance of the traders' forecast errors, it reduces the surplus speculators can extract from any given position in risky assets. If the quantity preannounced by liquidity traders is very small the potential gain available to speculators entering the market is not sufficient, bearing in mind the advantage they have from the reduction in the costs of risk bearing, to make up for the surplus reduction which they would have to bear following the reduction in the forecast error variance of all traders who are their counterparts in trading. The result is that the ex ante expected utility of speculators decreases and with it the number of traders on the market.

Whenever the quantity preannounced is greater than $\sqrt{\alpha^2 + N}$ [16], the noise reduction which is brought about by preannouncement benefits both speculators, who enter the market in greater number, and non announcers who benefit from the liquidity increase which is caused by preannouncement. As a consequence in such situations announcers benefit from fraud.

It is conjectured that in an integrated model with asymmetric information and fixed entry costs, the advantage derived to announcers from cheat-

[16] It is reasonable to deem that this represents the great majority of cases.

ing increases because fraudulent preannouncement further reduces their adverse selection costs.

Under the mistaken preannouncement regime, the asymmetric information model shows that, if $\tilde{l} > \sqrt{\alpha^2 + N}$ announcers benefit from preannouncement since their expected costs would be greater in case they did not preannounce; however, they would rather send correct than mistaken preannouncements.

Mistaken preannouncement implies for announcers both an additional risk bearing cost on the preannounced quantity of risky assets, and a risk bearing and adverse selection cost on the additional quantity of assets they trade, but which they had not preannounced.

Non announcers on the other hand, since their welfare is more influenced by the adverse selection than by the risk bearing costs, prefer no preannouncement to mistaken preannouncement and, as speculators do, mistaken to correct preannouncement.

Within a symmetric information framework with endogenous entry of speculators in which, as mentioned above, the liquidity effects substitutes the adverse selection effect, if $\tilde{l} > \sqrt{\alpha^2 + N}$ announcers still prefer correct to mistaken preannouncement; nevertheless, the effect of mistaken preannouncement on their welfare is ambiguous. In this model both non announcers and speculators prefer correct to mistaken preannouncements too, since the latter bring about an increase in their risk bearing costs. For the same reason they prefer the regime with no preannouncement to the regime with mistaken preannouncement.

One can therefore conclude that, if announcers make preannouncement errors under the regime of asymmetric information they benefit from preannouncement anyhow, while the other market traders are penalized; it may be that this result is due to the effect of the adverse selection costs, since in the second model the mistaken preannouncement effect on announcers' welfare is ambiguous, while announcers and speculators benefit from it.

APPENDIX

The model with mistaken preannouncement is solved below.
Given the price function:

$$\ddot{p} = \ddot{a}_0 + \ddot{a}_1 \ddot{\mathfrak{F}} + \ddot{a}_2(\tilde{n} + \tilde{q} + \tilde{v})$$

I) the variance-covariance matrix Θ of the two-signal vector

$$\Lambda_a = \begin{bmatrix} \tilde{y}_a \\ \ddot{p} \end{bmatrix}$$

and the covariance vector χ of the signal vector with the future return of the risky asset $\tilde{\mathfrak{F}}$ are:

$$\Theta = \begin{bmatrix} 1+\Gamma & \ddot{a}_1 \\ \ddot{a}_1 & \ddot{a}_1^2 + \ddot{a}_2^2(N+Q+A) \end{bmatrix} \qquad \chi = \begin{bmatrix} 1 \\ \ddot{a}_1 \end{bmatrix}$$

II) The distribution of the end of period return $\tilde{\mathfrak{F}}$ conditional on the signals Λ_a is Normal with expectation M_a and variance V_a.
Defining:

$$[B_1 \quad B_2] \equiv \chi' \Theta^{-1}$$

leads to:

$$M_a = E[\tilde{\mathfrak{F}} \mid \Lambda_a] = E[\tilde{\mathfrak{F}}] + \chi' \Theta^{-1} \begin{bmatrix} \tilde{y}_a - E(\tilde{y}_a) \\ \ddot{p} - E(\ddot{p}) \end{bmatrix} = [B_1 \quad B_2] \begin{bmatrix} \tilde{y}_a \\ \ddot{p} - \ddot{a}_0 \end{bmatrix} = -B_2 \ddot{a}_0 + B_1 \tilde{y}_a + B_2 \ddot{p}$$

$$\mathrm{Var}[\tilde{\mathfrak{F}} \mid \Lambda_a] = \mathrm{Var}[\tilde{\mathfrak{F}}] - \chi' \Theta^{-1} \chi = 1 - [B_1 \quad B_2] \begin{bmatrix} 1 \\ \ddot{a}_1 \end{bmatrix} = 1 - B_1 - B_2 \ddot{a}_1 = V$$

III) It is assumed that the market for risky assets clears;
by defining D_a as the net demand of each speculator, it follows that:

$$\int_0^1 D_a \, da + \tilde{l} + \tilde{q} + \tilde{v} + \tilde{n} = 0$$

where:

$$D_a = V^{-1}(M_a - \ddot{p}) = V^{-1}(-B_2 \ddot{a}_0 + B_1 \tilde{y}_a + B_2 \ddot{p} - \ddot{p})$$

Consequently, the market clearing condition is:

$$\int_0^1 V^{-1}(-B_2 \ddot{a}_0 + B_1 \tilde{y}_a + (B_2 - 1)\ddot{p}) \, da + \tilde{l} + \tilde{q} + \tilde{v} + \tilde{n} =$$

$$= -V^{-1} B_2 \ddot{a}_0 + V^{-1}(B_2 - 1)\ddot{p} + \int_0^1 V^{-1} B_1 (\tilde{\mathfrak{F}} + \tilde{y}_a) \, da + \tilde{l} + \tilde{q} + \tilde{v} + \tilde{n} = 0$$

If, $\int_0^1 V^{-1} B_1 \tilde{y}_a \, da = 0$ [17] then

$$-V^{-1} B_2 \ddot{a}_0 + V^{-1}(B_2 - 1)\ddot{p} + V^{-1} B_1 \tilde{\mathfrak{F}} + \tilde{l} + \tilde{q} + \tilde{v} + \tilde{n} = 0$$

[17] See ADMATI (1985) on this point.

and

$$\ddot{p} = [V^{-1}(1-B_2)]^{-1}(l + \tilde{q} + \tilde{v} + \tilde{n}) + [V^{-1}(1-B_2)]^{-1}V^{-1}B_1\mathfrak{F} - [V^{-1}(1-B_2)]^{-1}V^{-1}B_2\ddot{a}_0$$

Now, $\ddot{p} = \ddot{a}_0 + \ddot{a}_1\mathfrak{F} + \ddot{a}_2(\tilde{n} + \tilde{q} + \tilde{v})$ is a rational expectations equilibrium price if the following conditions hold:

1) $V^{-1}(1 - B_2) = \ddot{a}_2^{-1}$

2) $\ddot{a}_2 V^{-1}B_1 = \ddot{a}_1$

3) $\ddot{a}_2 l - \ddot{a}_2 V^{-1}B_2\ddot{a}_0 = \ddot{a}_0$

4) $\int_0^1 V^{-1}B_1\tilde{y}_a\,da = 0$

In order to find a closed form solution for the rational expectations equilibrium price, the above system of equations must be solved.

From Lemma 3.2 of Admati (1985), which uses the fact that:

$$[B_1 \quad B_2]\begin{bmatrix} 1+\Gamma & \ddot{a}_1 \\ \ddot{a}_1 & \ddot{a}_1^2 + \ddot{a}_2^2(N+Q+A) \end{bmatrix} = [1 \quad \ddot{a}_1]$$

$$V^{-1}B_1 = \Gamma^{-1}$$

and from 2), it follows that $\ddot{a}_2^{-1}\ddot{a}_1 = \Gamma^{-1}$.

Now, in order to find a solution for $\ddot{a}_2$ as a function of Γ^{-1}, which then solves $\ddot{a}_1$, it is necessary to use 1), B_2 and V expressed as a function of $\ddot{a}_1$ and $\ddot{a}_2$.

Therefore, one must find the value of B_2 as a function of $\ddot{a}_1$ and $\ddot{a}_2$.
By definition,

$$[B_1 \quad B_2] = [1 \quad \ddot{a}_1]\begin{bmatrix} 1+\Gamma & \ddot{a}_1 \\ \ddot{a}_1 & \ddot{a}_1^2 + \ddot{a}_2^2(N+Q+A) \end{bmatrix}^{-1} =$$

$$\begin{bmatrix} \dfrac{\ddot{a}_2^2(N+Q+A)}{(1+\Gamma)\ddot{a}_2^2(N+Q+A) + \Gamma\ddot{a}_1^2} & \dfrac{\Gamma\ddot{a}_1}{(1+\Gamma)\ddot{a}_2^2(N+Q+A) + \Gamma\ddot{a}_1^2} \end{bmatrix}$$

Defining: $\mathcal{G} = (1+\Gamma)^{-1}\Gamma$ and $R = \ddot{a}_1^{-2}[\ddot{a}_1^2\mathcal{G} + \ddot{a}_2^2(N+Q+A)] = \ldots = \mathcal{G} + (N+A)\Gamma^2$,
leads to redefining B_1 and B_2 as

$$B_1 = -[1 - \mathcal{G}R^{-1}](1+\Gamma)^{-1} = f(N+Q+A;\,\Gamma)$$

$$B_2 = \mathcal{G}R^{-1}\ddot{a}_1^{-1} = f(N+Q+A;\,\Gamma;\,\ddot{a}_1) = \mathcal{G}R^{-1}\Gamma\ddot{a}_2^{-1} = \frac{\ddot{a}_2^{-1}}{\Gamma^{-1}(1+(N+Q+A)(\Gamma^2+\Gamma))}$$

Similarly, by definition:

$$V = 1-[1 \quad \ddot{a}_1]\begin{bmatrix} 1+\Gamma & \ddot{a}_1 \\ \ddot{a}_1 & \ddot{a}_1^2+\ddot{a}_2^2(N+Q+A) \end{bmatrix}^{-1}\begin{bmatrix} 1 \\ \ddot{a}_1 \end{bmatrix} = \frac{\Gamma(\ddot{a}_2^2(N+Q+A)+\ddot{a}_1^2+\ddot{a}_1)}{(1+\Gamma)\ddot{a}_2^2(N+Q+A)+\Gamma\ddot{a}_1^2}$$

It can be shown [18] that:

$$V^{-1} = [1+\Gamma^{-1}+\Gamma^{-2}(N+Q+A]^{-1}) = \frac{(\Gamma^2+\Gamma)(N+Q+A)+1}{\Gamma^2(N+Q+A)}$$

Now, by substituting $B_2 = f(N, \Gamma, \ddot{a}_2)$ into 1) and bearing in mind that

$$V = [1+\Gamma^{-1}+\Gamma^{-2}(N+Q+A)^{-1}]^{-1},$$

it follows that: $\ddot{a}_2 = V^{-1}(1-\mathcal{G}R^{-1}\Gamma\ddot{a}_2^{-1}) = V^{-1} - V^{-1}\mathcal{G}R^{-1}\Gamma\ddot{a}_2^{-1}$

$$\ddot{a}_2 = V + \mathcal{G}R^{-1}\Gamma = \frac{\Gamma(\Gamma(N+Q+A)+1)}{[(\Gamma^2+\Gamma)(N+Q+A)+1]} = V + \frac{\Gamma}{[(\Gamma^2+\Gamma)(N+Q+A)+1]}$$

and

$$\ddot{a}_1 = \Gamma^{-1}\ddot{a}_2 = \frac{\Gamma(\Gamma(N+Q+A)+1)}{[(\Gamma^2+\Gamma)(N+Q+A)+1]\Gamma} = \Gamma^{-1}V + \frac{1}{[(\Gamma^2+\Gamma)(N+Q+A)+1]}$$

Finally, an expression for $\ddot{a}_0$ can be found by substituting B_2 into 3)

$$\ddot{a}_2 l - \frac{\ddot{a}_2 V^{-1}\ddot{a}_0\ddot{a}_2^{-1}}{\Gamma^{-1}[(\Gamma^2+\Gamma)(N+Q+A)+1]} = \ddot{a}_0$$

and by substituting $\ddot{a}_2$ and V^{-1} into 3), it follows that:

$$\ddot{a}_0 = \frac{\Gamma^2(N+Q+A)}{[(\Gamma^2+\Gamma)(N+Q+A)+1]} l = Vl$$

Proof of Proposition 1.2.I

$$\bar{C}_n - \ddot{C}_n = \frac{\Gamma^3 NA}{(1+(\Gamma+\Gamma^2)(N+Q))(1+(\Gamma+\Gamma^2)(N+A+Q))} > 0$$

$$\ddot{C}_n - C_n^* = \frac{\Gamma^3 N(L-A)}{(1+(\Gamma+\Gamma^2)(Y+N+Q))(1+(\Gamma+\Gamma^2)(N+L+Q))} > 0$$

$$\bar{C}_n - C^* = \frac{\Gamma^3 NL}{(1+(\Gamma+\Gamma^2)(N+Q))(1+(\Gamma+\Gamma^2)(N+L+Q))} > 0$$

Proof of Proposition 1.2.II

If one sets $\tilde{q} = 0$ [19]:

[18] See ADMATI (1985).

[19] This hypothesis does not affect the results.

$$C_l^* - \ddot{C}_l = \frac{-\Gamma((A-L)(1+\Gamma(N(\Gamma+1)+L))+\Gamma^2 A(\Gamma+1)(A+N)(N+L)+\Gamma NA)}{[1+(\Gamma^2+\Gamma)(N+L)][1+(\Gamma^2+\Gamma)(N+A)]} > 0$$

if $$L > A + \frac{\Gamma^2 A(\Gamma+1)(A+N)(N+L)+\Gamma NA}{1+\Gamma(N(\Gamma+1)+L))};$$

$$\ddot{C}_l - \bar{C}_l = \frac{\Gamma A(\Gamma\{(N+A)[N\Gamma(\Gamma+1)+1]+N(\Gamma+1)+L\}+1)}{[1+(\Gamma^2+\Gamma)(N+A)][1+(\Gamma^2+\Gamma)N)N]} > 0$$

Proof of Proposition 1.2.III

If one sets $\tilde{q} = 0$:

$$C_{l+n}^* - \ddot{C}_{l+n} = (C_l^* - \ddot{C}_l) + (C_n^* - \ddot{C}_n) > 0 \text{ if } L > A + \frac{\Gamma^2 A(\Gamma+1)(A+N)(N+L)+\Gamma NA}{1-\Gamma^2+\Gamma(N(\Gamma+1)+L)};$$

$$\ddot{C}_{l+n} - \bar{C}_{l+n} = \frac{\Gamma A\{\Gamma^3(N(N+A))\Gamma^2(N(N+A)+N)+\Gamma(A+L+2N)+1-\Gamma^2\}}{[1+(\Gamma+\Gamma^2)(N+A)][(\Gamma+\Gamma^2)N+1]} > 0$$

if $N > 1$ *or if* $\{\Gamma^3(N(N+A))\Gamma^2(N(N+A)+N)+\Gamma(A+L+2N)+1\} > \Gamma^2$

Proof of Proposition 1.2.IV

If one sets $\tilde{q} = 0$, Proposition 3.1 in Admati and Pfleiderer (1988) can be used in order to calculate the ex ante expected utility of speculators.

Let $\text{Var}(\tilde{\mathcal{F}} \mid \tilde{y}_a, \tilde{p}) = \Sigma$ be the conditional variance of $\tilde{\mathcal{F}}$ and let $\text{Var}(\tilde{\mathcal{F}} - \tilde{p}) = \Omega$ be the variance of the forecast error. Then, the ex ante expected utility of speculators is equal to: $-\sqrt{\frac{\text{Var}(\tilde{\mathcal{F}} \mid \tilde{y}_a, \tilde{p})}{\text{Var}(\tilde{\mathcal{F}} - \tilde{p})}} \exp(-w) = -\sqrt{\frac{\Sigma}{\Omega}} \exp(-w)$.

If follows that the higher the Σ/Ω ratio, the lower speculators' ex ante expected utility. In particular:

$$(\ddot{\Sigma}/\ddot{\Omega}) - (\Sigma^*/\Omega^*) =$$
$$= \frac{-\{\Gamma[(A-L)(1+\Gamma L+\Gamma N)+\Gamma A(N+A)(1+(\Gamma+\Gamma^2)(L+N))\}}{[\Gamma^2(N+A)(1+L)+\Gamma^2(N+A)^2+2\Gamma(N+A)+1][\Gamma^2(N+A)^2+\Gamma^2(L+N)+2\Gamma(N+L)+1]} > 0$$

if $$L > A + \frac{\Gamma(1+(\Gamma+\Gamma^2)(L+N)A(N+A)}{1+\Gamma(L+N)}, \text{ and}$$

$$(\bar{\Sigma}/\bar{\Omega}) - (\ddot{\Sigma}/\ddot{\Omega}) = \frac{\Gamma A(1+\Gamma L+2\Gamma N+\Gamma^2 N+\Gamma^3 N^2+\Gamma A+\Gamma^2 NA+\Gamma^3 NA)}{(1+(2\Gamma+\Gamma^2)N+\Gamma^2 N(L+N)(1+2\Gamma(N+A)+\Gamma^2(1+L)(N+A)+\Gamma^2(N+A)^2)}.$$

Since here speculators are better off when liquidity traders send no preannouncement rather than mistaken preannouncements, and since they prefer mistaken to correct preannouncement, the result of Admati and Pfleiderer (1991) is confirmed: speculators prefer the regime with no preannouncement to the one with correct preannouncement.

Proof of Proposition 2.1

Let's assume that N is equal to the variance of the liquidity traders total demand. The following Lemma is used in order to prove Proposition 2.1.

Lemma 2.1 *I) If* $\tilde{l} > \sqrt{\alpha^2 + N}$, *the ex ante expected utility of speculators and – consequently – the fraction of speculators who enter the market for risky assets are decreasing functions of the variance of the unpredictable liquidity demand.*
II) The ex ante expected utility of speculators and – consequently – the fraction of speculators who enter the market for risky assets are increasing functions of the size of the preannounced liquidity demand.
III) Let's assume that the following occur simultaneously: an increase in the quantity of the liquidity demand which is preannounced and a decrease in the variance of the unpredictable liquidity demand such that $dN \approx dv$. *If* $\tilde{l} > -(\alpha^2 + N) + \sqrt{(\alpha^2 + N)^2 + (\alpha^2 + N)}$ *the ex ante expected utility of speculators and the number of speculators who trade on the market increase.*
Proof:

$$\frac{\partial \Psi}{\partial N} = \frac{1}{2} \frac{\alpha \exp\left\{\frac{1}{2} \frac{-\tilde{l}^2 + (b-w)\,2\,(\alpha^2 + N)}{\alpha^2 + N} (\alpha^2 + N - \tilde{l}^2)\right\}}{(\alpha^2 + N)^{\frac{5}{2}}} < 0 \quad \text{if } \tilde{l} > \sqrt{(\alpha^2 + N)};$$

$$\frac{\partial \alpha}{\partial N} = -\frac{\frac{\partial (\Psi + \exp(-w))}{\partial N}}{\frac{\partial (\Phi + \exp(-w))}{\partial \alpha}} = \frac{1}{2} \frac{\alpha (\alpha^2 + N - \tilde{l}^2)}{\alpha^2 (\tilde{l}^2 + N) + N^2} < 0 \quad \text{if } \tilde{l} > \sqrt{\alpha^2 + N};$$

$$\frac{\partial \Psi}{\partial \tilde{l}} = \frac{\alpha \tilde{l} \exp\left\{\frac{1}{2} \frac{-\tilde{l}^2 + (b-w)\,2\,(\alpha^2 + N)}{\alpha^2 + N}\right\}}{(\alpha^2 + N)^{\frac{3}{2}}} > 0;$$

$$\frac{\partial \alpha}{\partial \tilde{l}} = -\frac{\frac{\partial (\Psi + \exp(-w))}{\partial \tilde{l}}}{\frac{\partial (\Phi + \exp(-w))}{\partial \alpha}} = \frac{\alpha (\alpha^2 + N)\,\tilde{l}}{(\tilde{l}^2 + N)\,\alpha^2 + N^2} > 0.$$

Let $dN \approx d\tilde{l}$, *then* $\frac{\partial \Psi}{\partial \tilde{l}} d\tilde{l} - \frac{\partial \Psi}{\partial N} dN = d\Psi > 0$ *if* $\tilde{l} > -(\alpha^2 + N) + \sqrt{(\alpha^2 + N)^2 + (\alpha^2 + N)}$; and $\frac{\partial \alpha}{\partial \tilde{l}} d\tilde{l} - \frac{\partial \alpha}{\partial N} dN = d\alpha > 0$ *if* $\tilde{l} > -(\alpha^2 + N) + \sqrt{(\alpha^2 + N)^2 + (\alpha^2 + N)}$;

The expected trading costs for announcers under the four regimes are:

$$\bar{C}_l = E\left(\frac{\tilde{l}^2}{\bar{\alpha}(\tilde{l}, N+Q, b)}\right); \quad \hat{C}_l = E\left(\frac{\tilde{l}^2}{\hat{\alpha}(\tilde{l}+\tilde{q}, N, b)}\right);$$

$$\ddot{C}_l = E\left(\frac{(\tilde{l}+\tilde{v})^2}{\ddot{\alpha}(\tilde{l}, N+A+Q, b)}\right); \quad C_l^* = E\left(\frac{\tilde{l}^2}{\alpha^*(N+L+Q, b)}\right).$$

Since from Lemma 2.1 if $\tilde{l} > -(\alpha^2+N) + \sqrt{(\alpha^2+N)^2+(\alpha^2+N)}$ then $\frac{\partial \alpha}{\partial \tilde{l}} d\tilde{l} - \frac{\partial \alpha}{\partial N} dN > 0$, it follows that

$$\bar{C}_l - \hat{C}_l = E\left(\frac{\tilde{l}^2}{\alpha(\tilde{l}, N+Q, b)} - \frac{\tilde{l}^2}{\hat{\alpha}(\tilde{l}+\tilde{q}, N, b)}\right) > 0 \text{ and}$$

$$\hat{C}_l - \ddot{C}_l = E\left(\frac{\tilde{l}^2}{\hat{\alpha}(\tilde{l}+\tilde{q}, N, b)} - \frac{(\tilde{l}+\tilde{v})^2}{\ddot{\alpha}(\tilde{l}, N+A+Q, b)}\right) < 0$$

and

$$C_l^* - \ddot{C}_l = E\left(\frac{\tilde{l}^2}{\alpha^*(N+L+Q, b)} - \frac{(\tilde{l}+\tilde{v})^2}{\ddot{\alpha}(\tilde{l}, N+A+Q, b)}\right) = \text{ambiguous}$$

Since $(\tilde{l}+\tilde{v}) > \tilde{l}$, and from Lemma 2.1 $\partial\alpha/\partial N < 0$, if $\tilde{l} > \sqrt{(\alpha^2+N)}$ then:

$$\bar{C}_l - \ddot{C}_l = E\left(\frac{\tilde{l}^2}{\hat{\alpha}(\tilde{l}N, b)} - \frac{(\tilde{l}+\tilde{v})^2}{\ddot{\alpha}(\tilde{l}, N+A+Q, b)}\right) < 0$$

The expected trading costs for non announcers under the three regimes are:

$$\bar{C}_n = E\left(\frac{\tilde{n}^2}{\bar{\alpha}(\tilde{l}, N+Q, b)}\right); \quad \hat{C}_n = E\left(\frac{\tilde{n}^2}{\hat{\alpha}(\tilde{l}+\tilde{q}, N, b)}\right);$$

$$\ddot{C}_n = E\left(\frac{\tilde{n}^2}{\hat{\alpha}(\tilde{l}, N+A+Q, b)}\right); \quad C_n^* = E\left(\frac{\tilde{n}^2}{\alpha^*(N+L+Q, b)}\right).$$

Since from Lemma 2.1 if $\tilde{l} > \sqrt{\alpha^2+N}$ then $\partial\alpha/\partial\tilde{l} > 0$, and $\partial\alpha/\partial N < 0$, it follows that:

$$\bar{C}_n - \ddot{C}_n = E\left(\frac{\tilde{n}^2}{\bar{\alpha}(\tilde{l}N, +Q, b)} - \frac{\tilde{n}^2}{\ddot{\alpha}(\tilde{l}, N+A+Q, b)}\right) < 0,$$

$$\ddot{C}_n - \hat{C}_n = E\left(\frac{\tilde{n}^2}{\ddot{\alpha}(\tilde{l}N, +A+Q, b)} - \frac{\tilde{n}^2}{\hat{\alpha}(\tilde{l}, +\tilde{q}, N, b)}\right) > 0,$$

$$\ddot{C}_n - C_n^* = E\left(\frac{\tilde{n}^2}{\ddot{\alpha}(\tilde{l}, N+A+Q, b)} - \frac{\tilde{n}^2}{\alpha^*(N+Q+L, b)}\right) < 0 \text{ and}$$

$$E[\hat{U}] > E[\bar{U}] > E[\dot{U}] > E[U^*]$$

where $\hat{U}$ is the ex ante expected utility of speculators under the regime of fraudulent preannouncement.

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SULLA ROBUSTEZZA DEL PREANNUNCIO A MESSAGGI DISTORTI

Obiettivo di questo articolo è quello di esaminare gli effetti del preannuncio da parte di *liquidity traders* della loro intenzione di trattare titoli sul mercato entro breve termine.

Questa pratica, nota tra gli operatori finanziari come "sunshine trading", mira ad informare gli altri operatori che colui che preannuncia non è un insider. Il preannuncio degli ordini migliora inoltre il coordinamento tra domanda e offerta di liquidità.

Admati e Pfleiderer (1991) dimostrano che il sunshine trading riduce i costi attesi del totale dei liquidity traders, ovvero annunciatori piú non annunciatori.

Nella loro analisi Admati e Pfleiderer suppongono che gli annunciatori trattino esattamente lo stesso ammontare di titoli che avevano preannunciato. In questo modo *essi non considerano la possibilità che l'annunciatore possa sterilizzare una parte degli ordini preannunciati*. In altre parole, come Pagano e Röell (1991) sottolineano, il preannuncio *soffre di un problema di credibilità: ogni operatore non informato ha incentivo a preannunciare una quantità di titoli maggiore di quella che ha realmente intenzione di trattare al fine di creare migliori condizioni di liquidità*.

In questo articolo si dimostra che le conclusioni di Admati e Pfleiderer possono non valere nel caso in cui gli annunciatori facciano preannunci fraudolenti, ovvero preannuncino una quantità di titoli minore di quella che tratteranno alla data prestabilita dal preannuncio.

In questo articolo si discute inoltre il caso del preannuncio errato e si confrontano i costi attesi degli investitori nei tre casi di preannuncio corretto, di preannuncio errato e di assenza di preannuncio.

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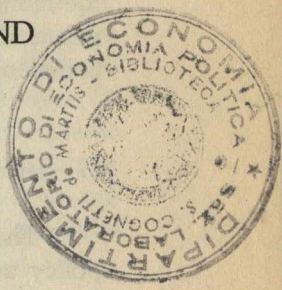
THE RELATIVE IMPORTANCE OF MONETARY AND FISCAL POLICIES IN CARIBBEAN COUNTRIES



by
ANNE J. BYNOE *

I. *Introduction*

The debate about the relative effectiveness of fiscal and monetary policy began in the sixties and spanned over a decade. Briefly, in the United States, the monetarists took the position that monetary policy was more important in stimulating economic activity than fiscal policy. In contrast, the Keynesians held that fiscal policy was more efficacious. The results of several studies, however, cannot be generalized for the developing countries since they have different economic and political structures [1]. This is so even for the United States in the 1980s and 1990s since its economic structure has changed significantly over time (for example, Kretzmer, 1992).

In this study, we examine empirically the relative efficacy of fiscal and monetary influences on economic activity in selected Caribbean countries. The evidence suggests mixed results which are similar to previous studies on developed countries (see, for example, Chowdhury, 1988; Batten and Hafer, 1983; Arestis, Frowen and Karakitsos, 1978), but are in contrast with previous tests of developing countries in which the fiscal influence was found to be more important to these economies than the monetary influence in practically every instance (example Darrat, 1984; and Chowdhury, 1986).

In the next section, we make a brief survey of the literature on studies

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[1] Developing countries differ from the United States economy in two important ways: first, they are often far more open with foreign trade accounting for a large percentage of GDP or GNP and, secondly, some have large non-monetized sectors. These issues are taken into account in studies by DARRAT (1984) and CHOWDHURY (1986).

of the monetary-fiscal policy controversy. The third section describes briefly the economic structure of the four countries being studied, Barbados, Guyana, Jamaica and Trinidad and Tobago. The fourth section presents the study model and discusses the estimates of the model. The validity of the model for policy purposes is considered to depend on the comparative stability of the monetary and fiscal estimates. These are evaluated by employing appropriate statistical tests. The fifth section provides the conclusion and some comments.

II. *Review of Previous Studies*

The earliest studies on the relative effectiveness of monetary and fiscal policy actions on economic activity focussed on the United States. Two broad approaches have been adopted. These are structural-type and reduced-form models.

The principal advantage of structural-type models is that they present us with an explicit explanation of underlying structural relationships. However, if the structure is not correctly specified by, say, not properly tracing the channels through which monetary and fiscal policy affect economic activity, then the model will underestimate the impact of each of the impulses. Some structural models have suggested the dominant influence of fiscal policy in the United States (e.g. Ando and Modigliani, 1965, and de Leeuw and Gramlich, 1969).

The reduced-form models, on the other hand, have the advantage of permitting the full effects of each type of policy action to be reflected on economic activity. They have been criticized [2], however, for embodying the possibility of reverse causation and for concealing the underlying transmission mechanism, since the structure is not made explicit.

Empirical findings employing the reduced-form approach tend to suggest that monetary policy has a stronger, more predictable and faster effect on economic activity than fiscal activity in the United States (see for example, Batten and Hafer, 1983; Andersen and Carlson, 1970 and Andersen and Jordan, 1968).

Several criticisms have been levelled at both types of models, suggesting that the results are flawed because of feedback from the economy to the policy variables. To account for the problems of such feedback, several

[2] Further discussions on the theoretical issues and problems regarding the reduced-form single-equation approach are in KERAN (1969 and 1970).

authors have used a vector autoregression (VAR) to analyze the data for both the United States as well as other countries (example, Kretzmer, 1992; and Atesoglu and Tillman, 1980).

When applied to other countries rather than the United States, the results tend to be mixed. For example, Chowdhury (1988) tested the St-Louis type model for six small open European countries, and found monetary policy to be more potent in three of the countries, Denmark, Norway and Sweden, while fiscal policy was more dominant in two countries, Belgium and the Netherlands. The results were inconclusive in the case of Austria. In a study employing the structural type of model, Arestis et al. (1978) have found fiscal policy to be more dominant than monetary policy in three O.E.C.D. countries, the Federal Republic of Germany, Canada and the United Kingdom, while the superiority of monetary policy over fiscal policy was found in only one of the four countries studied, the United States.

Studies on less-developed countries (LDCs) have, for the most part, employed variants of the "St-Louis Equation" (reduced-form model) (example, Chowdhury, 1986; and Darrat, 1984). The results suggest that in countries such as India and a few Latin-American countries, fiscal policy exerted a stronger influence than monetary policy on economic activity.

III. *Country Characteristics*

The economies of the Caribbean countries, which are the subject of this study, are very small and foreign-dependent [3] and, hence, world prices of their exportables and importables affect their fiscal, monetary and balance-of-payments performance. The countries sell their commodities at

[3] Some indication of the openness of these countries is seen in the export-to-income ratio during the period surveyed. This is shown below:

Country	Period	Average Export-to-Income Ratio (percent)
Barbados	1963-1990	26
Guyana	1965-1987	54
Jamaica	1963-1986	26
Trinidad & Tobago	1963-1990	55

Source: see note 7, below.

the prevailing price in world markets, and rely largely on export earnings of a few major commodities as a moving force in their economies. Their short-term macroeconomic performance, therefore, closely follows developments in the world economies. Thus Jamaica's economic fortunes have closely followed world prices of bauxite-alumina, Trinidad and Tobago's economy rose and fell along with world petroleum prices, and Barbados' tie to tourism kept it constrained to economies external to itself. Guyana's economy has mostly depended on exports of bauxite, sugar and rice, but over the period surveyed, the country has had severe domestic economic and political problems for a number of years. In fact, the "economic record for 1970-84 (was) remarkably dismal" (see Worrell, 1987, page 91).

All the countries showed a decline in economic performance in the 1980s as compared with the 1970s in response to the world-wide recession of the early 1980s. However, as the world economies grew in the middle 1980s, these economies failed to expand, due partly to the type of domestic policies pursed, and partly to extreme vulnerability to external events. The countries have followed an inward-oriented import-substitution industrialization development policy which has done little to transform the economies from basic reliance on the export sector to a more diversified economic base. Thus, in the eighties, the countries – including Trinidad and Tobago, the only oil exporter in the group, which benefitted tremendously from two oil shocks, in 1974 and in 1981 – were forced to accumulate increasing amounts of external debt in order to support their large current-account payments deficits [4].

[4] Some indicators of the burgeoning debt in the countries are shown below:

	External Debt/ GDP ratio[a]		Cumulative Current Account Deficit as a percentage of GDP	
	1979	1987	1979	1987
Barbados	10.3	34.3	37.6	49.5
Guyana	96.5	264.2	96.2	460.7
Jamaica	49.1	124.6	69.3	129.2
Trinidad & Tobago	11.2	35.6	– 32.0[b]	16.6

a. Debt represents total medium and long-term public and publicly-guaranteed debt and is taken from *World Debt Tables*. GDP data are from *International Financial Statistics*, and are converted from the local country GDP to U.S. dollars at the average official exchange rate for the given year.

b. Minus sign represents a surplus.

Despite the fact that these countries are very small "price takers" and world events are very influential in determining their macroeconomic activity, domestic factors do play a complementary role. In assessing the performance of the Jamaican economy in the 1970s and 1980s, Sharpley (Sharpley, 1983) observed, that "domestic policies and structural factors, rather than external factors beyond the control of the authorities were largely responsible for the excess demand for foreign exchange and worsening payments position". A similar conclusion about the Jamaican economy was reached by Worrell (1987):

> "Poor economic policies wrecked the Jamaican economy in the 1970s and 1980s. Unquestionably, the economy suffered severe dislocation as a result of the changes which occurred on world markets during the 1970s. Some export markets weakened permanently, the economy absorbed heavy terms-of-trade losses, and decision-makers had to cope with instability of demand, prices and interest rates (with extraordinarily high rates in the early 1980s). A succession of ill-conceived policies and a series of abrupt U-turns, however, converted diminished prospects into economic decline and deprivation for the majority of the population".

IV. *The Model and Regression Results*

The model used for this study is the modified St. Louis equation proposed by Batten and Hafer (1983), and utilized by Chowdhury (1988, and 1986) and Darrat (1984). In the original model, which employed the first-difference form, distributed lags of a monetary policy variable and a fiscal policy variable explained economic activity. Nominal gross national product was used to measure the dependent variable, economic activity, and different measures of the money stock and government expenditures were used to represent the monetary and fiscal policy variables, respectively.

Our model has the following features: first, the model is stated in growth-rate form in order to help resolve the problem of heteroscedasticity. Second, because of the openness of these countries and the heavy dependence on foreign trade, total exports are used to measure the foreign trade effect.

The equation to be estimated is the modified St. Louis Equation which can be written as:

$$\dot{Y} = a_0 + m_1 \dot{M}_{t-1} + f_1 \dot{F}_{t-1} + x_1 \dot{X}_{t-1} + u_1 \qquad (1)$$

where $\dot{Y}$, $\dot{M}$, $\dot{F}$ and $\dot{X}$ represent the growth rate of nominal income, narrow money supply, government expenditures and exports, respectively, and a, m f, and x are the coefficients to be estimated and u is the error term which is assumed to be serially uncorrelated, with zero mean and constant variance. The signs of all the coefficients are expected to be positive.

The basic model above was estimated for the four countries, Barbados, Guyana, Jamaica and Trinidad and Tobago, using annual data for the period 1963 through 1990. The sample periods varied, depending on data availability. The annual time series were taken from various issues of *International Financial Statistics* and its supplements published by the International Monetary Fund and from country-specific sources [5]. The variables are annual growth rates in the following: for economic activity, nominal gross domestic product; the monetary policy variable is currency and demand deposits (the money supply measure referred to as M1); the fiscal variable is central government total expenditures, while the foreign influence variable is measured by total exports. The variables were all measured in million units of local currency.

Table 1 presents summary statistics on the variables used in the regressions. Table 2 contains the simple correlation coefficients of the model variables.

Tests were run using two measures of change: changes in the two-year moving averages, and annual growth rates. Since the latter format outperformed the first, only the results of the annual growth rates are reported.

The model was estimated using the ordinary-least squares regression technique. Preliminary estimates of lag lengths were made using both a simple lag structure, and the Almon lag technique, with a variety of lags and different degrees of the polynomial. However, the statistical significance and the signs of the estimated coefficients forced us to reject both of these methods. Table 3 presents the results.

The R^2 varies from a high of 0.8851 in Trinidad and Tobago to a low of 0.4094 in Barbados and shows a fair degree of explanatory power in explaining GNP growth across the Caribbean countries. In general, the Durbin-Watson statistics reveal that the residuals are relatively free from first-order serial correlation.

The coefficients of all the three variables have the expected positive

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[5] Sources of data: International Monetary Fund, *International Financial Statistics;* Central Bank of Barbados, *Annual Statistical Digest; Annual Report, Economic Bulletin*; Bank of Guyana, Department of Statistics, *Statistical Yearbook of Jamaica*; Central Statistical Office, Trinidad and Tobago, *Annual Statistical Digest*, all various issues.

TABLE 1

SUMMARY STATISTICS OF REGRESSION VARIABLES

Country	N	Mean	σ
Barbados			
$\dot{Y}$	28	.13	.11
$\dot{M}$	28	.13	.12
$\dot{F}$	28	.14	.11
$\dot{X}$	28	.10	.23
Guyana			
$\dot{Y}$	21	.09	.11
$\dot{M}$	21	.15	.14
$\dot{F}$	21	.18	.20
$\dot{X}$	21	.12	.30
Jamaica			
$\dot{Y}$	24	.15	.08
$\dot{M}$	24	.17	.11
$\dot{F}$	24	.19	.12
$\dot{X}$	24	.17	.29
Trinidad and Tobago			
$\dot{Y}$	28	.12	.14
$\dot{M}$	28	.16	.16
$\dot{F}$	28	.15	.22
$\dot{X}$	28	.14	.41

σ = standard deviation

$\dot{Y}$ = growth rate in nominal income

$\dot{M}$ = growth rate in the money supply (narrow money M1)

$\dot{F}$ = growth rate in nominal government expenditures

$\dot{X}$ = growth rate in nominal exports

Dots over the variables indicate growth rates.

Sources: see note 5.

sign, indicating that changes in these variables have the expected positive impact on nominal income. The significance of the coefficients, however, varies from country to country. The impact of government expenditures on nominal income growth is significant at the 1% level in Barbados. In Trinidad and Tobago it is significant at the 5% level in the first year, and the effect is even stronger in the second year where it is significant at the

TABLE 2

CORRELATION COEFFICIENTS OF MODEL VARIABLES

Country	$\dot{Y}$	$\dot{M}$	$\dot{F}$	$\dot{X}$
Barbados				
$\dot{Y}$	1.00			
$\dot{M}$	0.25	1.00		
$\dot{F}$	0.51	0.06	1.00	
$\dot{X}$	0.43	0.17	− 0.004	1.00
Guyana				
$\dot{Y}$	1.00			
$\dot{M}$	0.41	1.00		
$\dot{F}$	0.31	0.23	1.00	
$\dot{X}$	0.95	0.40	0.28	1.00
Jamaica				
$\dot{Y}$	1.00			
$\dot{M}$	0.43	1.00		
$\dot{F}$	0.55	0.09	1.00	
$\dot{X}$	0.78	0.22	0.64	1.00
Trinidad and Tobago				
$\dot{Y}$	1.00			
$\dot{M}$	0.57	1.00		
$\dot{F}$	0.78	0.74	1.00	
$\dot{X}$	0.79	0.20	0.56	1.00

For description of variables, see Table 1.
Sources: see note 5.

1% level. This impact, however, is not significant in Guyana and Jamaica. The impact of monetary growth, on the other hand, is significant at the 5% level only in Jamaica, but it is not significant in Barbados, Guyana or in Trinidad and Tobago. From the empirical evidence, fiscal policy exerts a significant impact on economic activity in Trinidad and Tobago and Barbados, while monetary policy is more potent in the case of Jamaica.

The impact of both monetary growth and government expenditures is statistically insignificant in Guyana. The Guyanese economy was in turmoil both politically and economically during the entire period under survey where "...production was diverted to unofficial markets, a process which

TABLE 3

MONETARY, FISCAL AND FOREIGN INFLUENCES ON GROWTH RATES OF ECONOMIC ACTIVITY

Coefficient of	Barbados 1963-90	Guyana 1965-85	Jamaica 1963-86	Trinidad & Tobago 1963-90
Constant	− 0.0091 (− 0.2318)	0.0459 (3.2605)	0.0669 (2.6285)	0.0242 (1.8678)
$\dot{M}$	0.1907 (1.2712)	0.1787 (0.2567)	0.2065[b] (2.1187)	0.0156 (0.1412)
$\dot{F}$	0.4919[a] (3.1472)	0.2424 (0.5331)	0.0729 (0.6324)	0.1993[b] (2.2705)
$F_{(-1)}$	0.1987 (1.1984)			0.2033[a] (3.5171)
$\dot{X}$	0.1696[b] (2.2726)	0.3450[a] (10.8631)	0.1887[a] (3.9228)	0.2321[a] (7.2594)
$\dot{X}_{(-1)}$				0.0347 (1.1063)
$\bar{R}^2$	0.4094	0.8834	0.6400	0.8851
S.E.R.	0.0850	0.0391	0.0494	0.0490
D.W.	2.3204	2.8229	1.9533	2.1254
S.S.R.	(0.1664)	(0.0260)	(0.0487)	(0.0529)
F-stat	5.6798	51.5166	14.6100	42.6147

t-statistics are in parentheses
$\bar{R}^2$ is the adjusted coefficient of determination
S.E.R. is the standard error of the regression
D.W. is the Durbin-Watson statistic
Superscript *a*: significant at the 1% level
Superscript *b*: significant at the 5% level
See Table 1 for description of the variables
Sources: various regression estimates.

seems to have assumed larger and larger proportions as time went by..." (see Worrell, 1987). It would appear that because of instability in the economy neither fiscal nor monetary policy was effective as stabilization tools during the period covered.

In addition, the foreign influence variable plays an important role in explaining the growth in nominal income in all of the countries. The varia-

ble is significant at the 5% level in all of the countries, and in the case of Guyana, it is the only important variable in explaining economic activity.

The results for these countries are not totally consistent with other studies on developing countries which found fiscal policy, rather than monetary policy to be dominant in all instances (see Chowdhury, 1986; and Darrat, 1984).

V. *Further Tests on Monetary vs Fiscal Policy*

We tested two common propositions to further evaluate the monetary and fiscal policy influences [6]. These tests examine which of the two, monetary or fiscal policy, is more predictable and stronger.

Predictability tests are based on the analysis of the *t*-statistics of the sum of the coefficients. Table 3 shows that the *t*-statistics for fiscal impacts are relatively larger than those of the monetary impacts, in the cases of Barbados and Trinidad and Tobago, while the *t*-statistic for the monetary influence is larger than that of the fiscal influence in Jamaica. In the case of Guyana, neither variable reflects a significant *t*-statistic. These tests confirm the evidence derived in the regression results.

Next, we performed tests of the relative strength of the variables by calculating the beta summed coefficients of the policy variables. These coefficients are the product of the estimated sum coefficient and the ratio of the standard deviation of that policy variable and income. The results are shown in Table 4.

TABLE 4

CALCULATED BETA SUMMED COEFFICIENTS

Country	Monetary Influences	Fiscal Influences
Barbados	0.1999	0.6623
Guyana	0.2162	0.4280
Jamaica	0.2728	0.1034
Trinidad & Tobago	0.0177	0.6085

Source: Tables 1 and 2.

[6] These tests were carried out by CHOWDHURY, 1988; DARRAT, 1984; and KERAN, 1969 and 1970.

The beta coefficients also confirm that the fiscal influence on economic activity is more potent in Barbados, Trinidad and Tobago and Guyana [7], while the monetary influence has a greater impact in Jamaica.

If the regression results are to be useful for policy purposes, the estimated regressions must, at least, prove to be stable making it easier to predict the effect of a change of the policy variable. Two types of statistical tests are used to examine these properties. These are the Granger-causality test (see Granger, 1969) and the Chow test (see Chow, 1960).

The Granger-causality test is applied when there is a question as to exogeneity of the right-hand side variables. A desirable property of the right-hand side variables is that they be free from feedback from the dependent variable, that is, that they are statistically exogenous. In our analysis, it can be argued, *a priori*, that two variables, the fiscal- and foreign trade-effect variables can be considered to be statistically exogenous to GNP growth in the modified St. Louis equation [8]. However, there is a question as to whether the money supply is statistically exogenous [9]. Therefore, the Granger-causality test will be used to test the presence of a causal relationship only between money and GNP and vice versa [10]. Table 5 re-

TABLE 5

F-STATISTICS FOR GRANGER-CAUSALITY TEST

Country	H_0: Money growth does not Granger-cause GNP growth	H_0: GNP growth does not Granger-cause money growth
Barbados	1.60	0.53
Guyana	1.20	0.96
Jamaica	2.00	2.02
Trinidad & Tobago	6.33 *	1.87

* Means significant at the 5-percent level.

[7] Even though the regression equations do not show the statistical significance of either fiscal or monetary policy in the case of Guyana, the beta coefficient test, however, does reveal that the fiscal impulse is relatively stronger than the monetary impulse.

[8] See DARRAT (1984), for a discussion on this issue.

[9] See DARRAT (1984, p. 277).

[10] The Granger test is used when, given two variables, X and Y, there is a debate as to whether X causes Y, or the other way around. If the right-hand side variable is statistically exogenous, then a regression of Y on the lagged, current and future values of X should be statistically insignificant in explaining Y. Conversely, in a regression of X on Y, the future values of Y will appear as statistically significant in explaining X – primarily because it is X itself that is determining those future values. In our tests, X and Y are, respectively, money supply growth and GDP growth.

ports the results of the Granger test, showing the computed *F*-statistics for testing the null hypothesis that money growth does not cause changes in the growth of gross national product (column 2) and vice versa in column 3.

The results suggest that only for Trinidad and Tobago the money growth variable is exogenous to GNP growth at the 5% significance level. It is possible that the regression results for Barbados, Guyana and Jamaica suffer from simultaneous-equation bias.

The other test for temporal stability of the estimated equations is the Chow test. This test examines whether the estimated equation has undergone a single point shift. This test is maximized if the sample is split at the mid-point. The results are shown in Table 6 below. The results show that in

TABLE 6

CHOW TEST - FOR STABILITY

F-Statistics	
Country	Chow Test
Barbados	1.250
Guyana	1.890
Jamaica	0.714
Trinidad & Tobago	2.070

no case could the hypothesis of stability of the coefficients be rejected at the 5% level. The estimated equations for all these equations are structurally stable and are, therefore, useful for policy purposes in these countries.

V. *Conclusion*

The purpose of this study has been to assess the relative impact of monetary and fiscal policy actions on economic activity in a select group of Caribbean countries. We employed a modified St. Louis-type reduced form equation for the period 1963 to 1990. The regression results suggest that the fiscal influence has a greater impact on changes in nominal income than the monetary influence in Barbados and Trinidad and Tobago, while the monetary influence is more important in Jamaica. In Guyana, however, neither the fiscal nor monetary influence is significant in determining nominal income during the period covered. Further tests on the predictive power

and relative strength of the respective variables, confirm the response obtained in the regression equations. The results contrast with previous studies of developing economies and would tend to suggest that the findings of the St. Louis equation cannot be generalized for the developing (and even developed) countries since countries have different economic and political structures.

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L'IMPORTANZA RELATIVA DELLA POLITICA MONETARIA E FISCALE NEI PAESI CARAIBICI

Questo articolo esamina l'influenza relativa delle misure di politica fiscale e monetaria sull'attività economica in un gruppo di paesi caraibici. Viene usata una equazione in forma ridotta del tipo St. Louis per il periodo 1963-1990. I risultati della regressione suggeriscono che l'aumento delle spese statali ha un maggior impatto sull'attività economica nelle Barbados e Trinidad e Tobago, mentre in Jamaica è l'aumento dell'offerta di moneta a influenzare maggiormente l'attività economica. Nella Guyana l'attività economica non è influenzata significativamente né dalla politica fiscale né da quella monetaria. Questo in effetti implica che la politica discrezionale di stabilizzazione può essere perseguita con maggior successo dalla politica fiscale che dalla politica monetaria nelle Barbados e Trinidad e Tobago, mentre la politica monetaria avrà maggior influenza in Jamaica. Per la Guyana è necessario attendere un periodo di stabilità politica prima di poter trarre ulteriori conclusioni.

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THE ROLE OF GOVERNMENT IN TRANSITION: THE CASE OF SLOVENIA

by
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There is an intense debate about economic policy and the role of government taking place today in formerly socialist countries as they fundamentally reappraise their economic systems. In comparison with the command system that existed in other Eastern European countries, the Slovene system developed several elements found in a market system. After becoming independent in October 1991, Slovenia entered the transition period transforming its economic system of a semicommand nature into a market system. The question of economic policy and the new role of government finally came to surface.

A rather steady belief exists that the economic crisis of the eighties in most of the world was mainly a crisis of the state, and not a crisis of the private sector. Hypertrophy of the public sector is becoming one of the central problems of the post-communist era, and the destabilizing behavior of the state a main source of instability. The transition period demands entirely new goals, measures and behavior from the government. The paper studies these new relations in a new country - Slovenia.

1. *Government and Transition*

In the process of transformation from a (semi)command economy into a market one, certain structural processes are more or less characteristic for all formerly socialist economies: demonopolization of economic activities, redefining the role of the state, lack of market institutions in the system, correction of relative prices, entering world markets, etc.

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In the 1940s and 1950s, most development economists believed that markets in developing countries functioned highly imperfectly and concluded that there was a strong case for government intervention (Rosenstein-Rodan, 1984). Scitovsky (1954) suggested that the market mechanism could be relied on to take care of the production problems of an economy, yet investment allocation required state intervention. So, the state emerged in the role of an investment planner in developing countries on one side, and in the role of a centrally directed mobilizer of resources and administrative issuer of direct commands in socialist countries on the other.

As the most important part of the transformation process now going on in ex-socialist economies we can label the decomposition and creation of a new economic system. Results of the limited reforms in the eighties give a lesson for the nineties. Development experience in the last forty years suggests that even if market failures were present government failures significantly went beyond market failures. The most common government failures were: maintaining an unchangeable nominal foreign exchange rate under circumstances of high inflation rates, persisting on a high negative real interest rate, judging government investment programs from a political and not economic basis (usually linked to hidden corruption), etc.

The present economic situation in Slovenia requires, in principle, a function of the state which would make firms the bearers of economic development. The government has, in this case, a triple role (Senjur, 1991):

1. The government creates, maintains and regulates the macroeconomic infrastructural conditions for an efficient functioning of the economy.
2. The government cooperates with the industry in form of partnership on certain areas that are crucial for development.
3. The government can sometimes help firms in development, but development policy should never be based on such a role (considering that the concept of sector priorities and programs is already outdated).

In the framework of the function of creating its macroeconomic structure, Slovenia (as all formerly socialist countries) is rather weak; all sorts of government activities are needed to eliminate this deficit:

- recovery of the banking system;
- taking new initiatives and strengthening new financial institutions;
- creating a proper risk fund for the development of entrepreneurship;
- passing out a law on privatization which needs to be accompanied by a law on public industrial societies; a new law on accounting, an off shore legislation, etc.
- for countries that arose from the ruins of former federal countries (Yugoslavia, Soviet Union) it is very important to have payment agreements

with the former countries they were in union with. Loosing these markets cannot be compensated in the short run by placing goods on hard currency markets;
- the government is the factor which through regulation of property rights, and with the establishing of a favorable investment climate, should attract foreign investors and direct foreign aid.

Although the market operates inadequately in many spheres, it performs an important function in disciplining producers against wasteful use of resources. This fact demands a radical demonopolization. Natural and infrastructural monopolies are organized in systems that create mass production, while demand remains inelastic. The price system in Slovenia was in the past set in a way that even the least productive producer could survive, while others received a rent. Therefore the marketization of the (semi)command economy demands immediate demonopolization. It will be necessary in Slovenia to introduce concessions (contract transfer of state monopolies to firms under certain conditions and for a certain period of time), mainly in fields such as the health system, railroads, telecommunications, roads. Irrationalities in these sectors are already leading to a higher burdening of the economy. Introducing concessions together with private work (self-employment, part-time employment) is a condition for the demand curve shift to the right, in the area of greater output and lower level of prices. A similar effect will be achieved with the introduction of public announcements for all government purchases.

2. *Government and Internal Equilibrium*

The condition for the functioning of an efficient market economy and efficient economic development is a stable economy. In the process of transformation into a market economy the role of the state and its measures for macroeconomic stabilization are of central importance. Experience in implementing stabilization programs in some socialist countries (Poland, Yugoslavia) confirm that responsiveness of these economies to measures for macroeconomic stabilization somehow differ from responsiveness in market economies. For example, Fischer and Gelb (1991) suggested that an increase of interest rates may encourage household savings, but in the absence of tight budget constraints, firms may simply refinance growing interest charges in a giant Ponzi scheme that delays reform and then renders it extremely costly. (In a market economy, the tendency of week firms to borrow at very high interest rates leads lenders to ratio credit at market

interest rates). The reason lies in the nature of (semi)command systems, which causes price inelasticity of aggregate supply and aggregate demand. The inelasticity phenomenon functioned in the past both ways (therefore, in cases of increases as well as in cases of decreases of aggregate supply and demand).

Political and institutional arguments, such as e.g. protection of the local market, autarky and monopolistic positions in certain sectors of the economy (sometimes protected even by laws, or even by the constitution), various behaviors of workers as entrepreneurs compared to entrepreneurs under circumstances of capitalism, hindering of private ownership, etc. did not allow full activations of resources – not to mention high unemployment. Recent empirical studies (Mencinger, 1993) proved however, that structural characteristics of Slovene economy rapidly changed after independence in October 1991. These changes are especially turbulent on the labor market. The mechanism of faster adaptation was confirmed on other markets as well.

Rigidity of demand and supply sides, blockades in the system, political and administrative color of economic policy etc. have sealed the socialist economic system with inherent inflation that partial reforms of economic policy (without alterations in the political and economic system) were not able to annihilate.

Inflation control is becoming the core of the processes of reform in all ex-socialist economies, especially in Slovenia. Microeconomic sediment of the past in these economies which reflects in ownership relations, adjustment of wages, in the organization of the financial system and in allocating mechanisms, entails the risk of annihilating or distorting the effects of conventional economic measures. Commander (1992) proves that experience indicates that prices cannot, instantaneously, jump to equilibrium levels.

Some empirical testings (Bruno, 1988: Štiblar, 1988) suggest that the more an economy is further away from the equilibrium (internal or external), i.e. from the stability equilibrium of low inflation, the smaller are the chances for bearers of economic policy to correct results. That is why in cases of disequilibrium development policy is usually sacrificed first, then system policy, then external equilibrium, so that under circumstances of hyperinflation prices remain the sole indicator.

Movements in the economy in the first quarters after independence indicate that the Slovene economy still finds itself under circumstances of a stable high inflation equilibrium. Such circumstances do not allow any tolerance in antiinflationay measure taking, otherwise another transition into hyperinflation is inevitable. Only simultaneous and combined deindexation

of prices of factors and products can directly lower the coefficient of adaptation of inflationary expectations (Bole, 1992). In the circumstances existing the priority is, therefore, to solve the trade-off between economic growth and inflation in favor of stabilization.

The economic indicators of Slovene economy confirm stabilization efforts: consumer price index (monthly rate) dropped from 21.5% in October 1991 to 1.0% in April 1993. Opportunity costs were high; unemployment rate jumped to 13.4% in April 1993, GDP level dropped to the lowest level since 1977.

The economic activity in Slovenia has been declining since 1987. A drastic decline in 1991 (−9,3%) and 1992 (−6,5%) mainly resulted from reduced demand from other countries (republics) of former Yugoslavia, reduced demand from CMEA countries and restrained domestic demand. Government was pushed into an entirely new role: How to stabilize the economy and simultaneously expand production! The situation is new, because government in previous times used to solve GDP problems only with expansive monetary policy, regardless of the opportunity costs induced

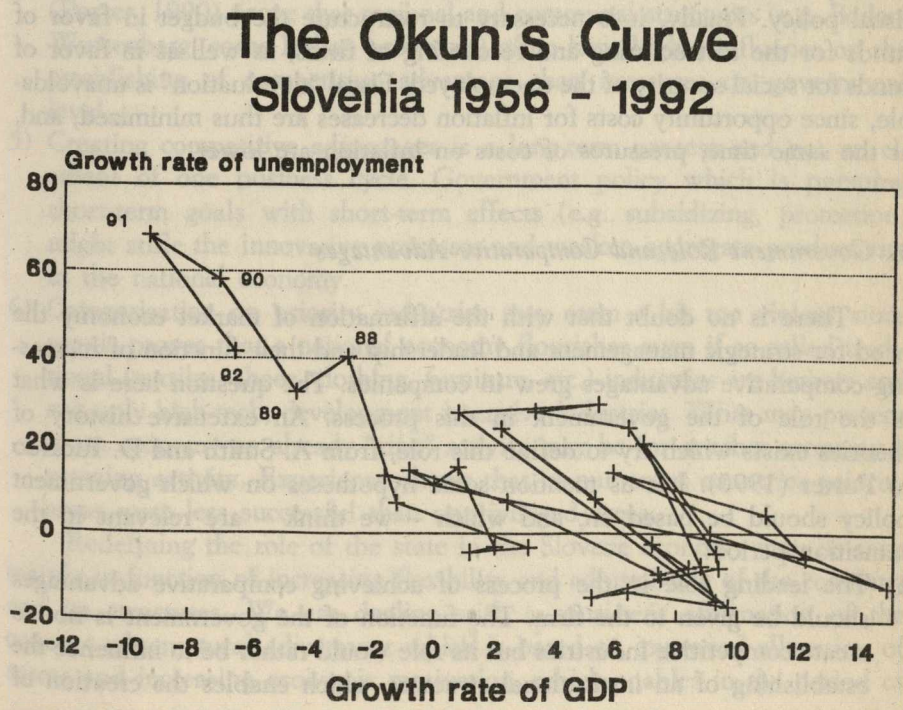

FIG. 1

by inflation. If we consider monetary policy as exogenous (to achieve a low level of inflation), economic policy has however, with certain measures the possibility to neutralize the negative consequences of price restraints.

Experience from the sixties shows that Keynesian economic policy to increase aggregate demand leads to inflation. Stimulation of economic growth on such basis seems, therefore, inappropriate, especially if the volume of the public debt in Slovenia (36% of GDP) and the threatening danger of the current budget deficit (2.5%) are considered. Additional indebtedness of the state would trigger the so-called crowding-out effect, i.e. dismissing the private sector from the capital market and interest rate increases. Nevertheless we consider fiscal policy as the main "pushing" instrument in this period of transition.

The arsenal of fiscal policy (which offers a wide set of alternative measures) was, up to now, relatively badly utilized in Slovenia. Unselective subsidizing of the economy, indomitability of government monopolies and their prices, hypertrophy of the public sector etc., are segments where fiscal policy should intervene immediately. Also, stimulation of entrepreneurial development and investments lies in the context of necessary actions of fiscal policy. Finally, it is necessary to restructure the budget in favor of funds for the restructuring and recovering of firms, as well as in favor of funds for social security of the unemployed. Fiscal "devaluation" is unavoidable, since opportunity costs for inflation decreases are thus minimized, and, at the same time, pressures of costs on inflation are lower.

3. *Government Role and Comparative Advantages*

There is no doubt that with the affirmation of market economy the need for strategic management and leadership and their function of increasing comparative advantages grew in companies. The question here is what is the role of the government in this process. An extensive history of theories exists which try to define this role, from A. Smith and D. Ricardo to Porter (1990). Let us mention some hypotheses on which government policy should be based on, and which – we think – are relevant in the transition period:

1) The leading role in the process of achieving comparative advantages should be given to the firm. The function of the government is not to create competitive industries but its role would rather be to influence the establishing of an institutional structure which enables the creation of

comparative advantages. It is, therefore, more of a direct than indirect function.

2) Dynamism leads to competitive advantage, and not short-term cost advantages (the policy of intensifying competition on the local market, fastening innovations, etc.).
3) Government policy must promote diversification of competitive advantages. The government often persists on old advantages and is forgetting to create new ones. Competitive advantages based on sources such as e.g. abundant natural resources, low labor costs, devaluated currency, are often linked to low productivity and are, therefore, unstable. Basing competitive advantages on these sources leads companies into a price oriented strategy and to the conquering of price sensitive market segments. Historic praxis indicates that such strategies are extremely sensitive; the consequence may be antidumping and/or protectionist measures taken by importing countries, and frequently also government subsidizing in developing countries. The elimination of such competitive advantages is very likely to occur.
4) Competitive advantages are usually locally conditioned. Some studies (Porter, 1990) prove that regional and communal structures (e.g. Baden-Wurtenberg, some Italian provinces) often have higher influence on the establishing of competitive advantage than measures on government level.
5) Creating competitive advantages is a long-term process and not an element of one business cycle. Government policy which is pursuing short-term goals with short-term effects (e.g. subsidizing, protection) might stifle the innovative processes and weaken aggregate productivity in the national economy.
6) Categorization on priority industries may seem a bit too violent since praxis proves that a national economy flourishes even if so-called traditional (textiles, shoes, clothing, furniture, etc.) industries are bearers and not only high-tech, development intensive industries. What may present in an economy an already "ripe" activity may be for another economy a growing activity. Experience shows that in numerous countries priority areas were less successful than unprivileged areas.

Redefining the role of the state in the Slovene economy may be seen mainly in function of increasing flexibility and adjustability of the economy and its structures. We are dealing with a consistent affirmation of the concept of structural adjustment which is based on improved allocation of assets and increasing economic motivation, which enables in the period of

TABLE 1

AVERAGE RATES OF PROTECTION AT THE LEVEL OF SOME ECONOMIC SECTORS IN 1990 FOR THE REPUBLIC OF SLOVENIA AND THE EUROPEAN COMMUNITY

Sect.	Name	Rep. of Slovenia			Europ. Comm.	
		(1)	(2)	(3)	(4)	(5)
0107	Iron and steel basic ind.	12.9	11.9	27.5	5.4	4.5
0113	Fabricated metals	15.5	15.0	31.3	5.8	5.5
0114	Machinery	13.8	14.6	29.8	4.8	4.7
0115	Transport equipment	14.5	16.1	30.3	7.2	6.0
0116	Shipbuilding	9.3	12.4	20.6	0.9	3.9
0117	Electrical apparatus appliances	14.7	14.1	30.1	6.2	7.3
0118	Basic chemicals	8.5	8.3	24.5	7.2	7.6
0119	Processing of chemicals	9.5	9.7	25.4	7.0	7.7
0123	Furniture and fixtures	13.9	13.5	29.6	5.0	5.3
0124	Paper and paper products	14.1	8.5	30.1	8.1	1.8
0125	Textile yarns	15.2	15.7	30.1	8.4	9.5
0126	Finished textiles	19.5	16.0	33.4	11.5	9.5
0127	Leather and fur	8.4	10.4	24.4	3.4	5.1
0129	Rubber	14.6	15.3	30.1	6.5	5.3
0130	Food processing	9.6	8.2	25.3	11.7	3.2
0132	Animal food	5.0	5.0	15.0	0.0	0.0
0201	Agriculture	6.0	3.6	21.7	5.9	1.8
0203	Fishery	3.3	0.0	19.3	11.0	13.7
0300	Forestry	4.0	2.4	20.0	1.6	0.0
Average		12.0	11.1	27.5	6.8	4.4

Source;

Explanation of columns:

(1) Average rate of tariff protection in the Republic of Slovenia unweighted, used all codes;
(2) Average rate of tariff protecion in the Republic of Slovenia weighted by the value of imports;
(3) Average rate of total price protection in the Republic of Slovenia, unweighted, used all codes;
(4) Average Common tariff rate in the EC, unweighted, used all codes;
(5) Average Common tariff rate weighted by the value of imports of the Republic of Slovenia (without the imports from the EC).

transformation (together with a sound economic policy) a long-term revival of the economy.

An important element of reviving may be the liberalization of imports.

The existing system of foreign trade protection should be reorganized in a way that the system would allow the affirmation of local production which is export oriented. At the same time this is how an adjustable economic structure appropriate for a small open economy is created. Recent empirical studies (Majcen, 1992) comparing the levels of protection between Slovenia and the European Community confirmed that Slovene economy is highly protected.

Presented calculations suggest some possible consequences of Slovenia's integration into the EC. A considerable difference of average price protection between EC and Slovenia, which will be eliminated with the integration process raises a question of future budget constraint.

Two important "deficits" will emerge:

- on the budget revenue side, we can expect reduced revenues;
- increased demand for subsiding production will demand higher outlays.

Such drastic consequences require that in the process of approaching to the EC, price and non-price protective measures must be adopted by the Republic of Slovenia only in accordance with tax reform and simulated by the short and long-run effects on the main macroeconomic variables.

4. *Final Remarks*

Through its independence, Slovenia is on the path of becoming an integral part of the European and global economy. Slovenia is a small country and will, therefore, be very sensitive to any types of internal and external shocks; of essential meaning will be the creation and leading of an economic policy that will know how to utilize the advantages Slovenia already has (decentralized decision-making and relative independence of firms and economists), and which will enable development according to European criteria.

The historic praxis of some economically successful small countries indicates that economy of scale leaves its position to the economy of innovative changes. Large scale, as the basis for the economy of costs, gives up its position to intellectualization, individualism, specialization, in other words, differentiation replaces uniformity (Kržičnik, 1991). Innovative elasticity of small economies was already forecasted by Kuznets (1960) with his thesis that small nations have advantages (because of greater unity and good communications) regarding social preconditions for economic development.

If we accept the premise that economic growth is not an outcome of a

key factor of development but rather an outcome of a combination of numerous factors, then a small state has, of course, the opportunity of selecting a combination of factors of development so that it can, because of its smallness, develop successfully. The correctness of this thesis is strengthened by today's mega-trends which we are witnessing (miniaturization of products, transition from centralization to globalization, globalization of economies, etc.), as well as by the concrete economic results of small countries.

Small open economies are very sensitive on tariff and non-tariff policies in countries representing their export market. This vulnerability can be, in great measure, compensated by incorporating small countries into economic associations that would cover their import and, especially, their export market. For Slovenia, as a small economy, the agreement with the European Community has an essential meaning. A cooperation agreement (which will, besides trade, encompass also the financial and technical areas) will give Slovenia a favorable status in EC-Slovene trade relations, but will require the opening of the Slovene market, changes in the tariff system, and selective decreases for certain items.

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IL RUOLO DI UN GOVERNO IN TRANSIZIONE: IL CASO DELLA SLOVENIA

Dopo la dichiarazione di indipendenza nell'ottobre 1991, la Slovenia è entrata nella fase di transizione trasformando il suo sistema economico di tipo semicentralizzato in un sistema di mercato. È di cruciale importanza la creazione di una politica macroeconomica che permetta alle imprese di identificare i vantaggi determinati dalla concorrenza. L'articolo esamina alcune tesi sulle quali si dovrebbe basare la politica del governo per ottenere risultati macroeconomici (stabilità, crescita economica, equilibrio esterno) e mettere in grado le imprese di identificare i vantaggi della concorrenza.

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ON REGULATION Q AND THE BANK FAILURE RATE IN THE UNITED STATES

by
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I. *Introduction and Objective*

Bank failures in the United States have increased enormously since 1981. In order to explain this situation, certain factors have been identified. The list of factors would include such items as recession (or at least the recession of 1981-82), the cost of funds to banks, and the Tax Reform Act of 1986 [1]. In addition, the interest rate ceilings imposed upon banks in the United States under Regulation Q (until its elimination) have been suggested as a possible contributing cause of the bank failure problem. Regulation Q authorized the Federal Reserve to establish the maximum explicit interest rates that commercial banks were permitted to pay on savings and time deposit liabilities.

Ritter and Silber (1989, p. 97) observe that "Regulation Q effectively prohibited...well-managed banks from offering depositors more attractive interest rates than the bank next door". They (1989, p. 97) observe also that "...Regulation Q caused intermittent financial disintermediation during the tight money periods of the 1960s and 1970s, and again in 1981. During those periods, money market interest rates rose but deposit interest rates were held down by Regulation Q. With deposit rates below market rates, savers stopped moving funds *into* financial institutions; instead, they moved them *out*". This view expressed by Ritter and Silber (1989) is shared by

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[1] Other possible contributing factors would include the commercial bank capital-to-asset (or capital-to-deposit) ratio and the propensity for increased commercial bank risk-taking behavior associated with the existence of federal deposit insurance (see BARTH, 1991, for a bibliography of such research studies).

many other authors as well, including Bowden (1989), Campbell, Campbell, and Dolan (1988), and Johnson and Roberts (1988).

If in fact Regulation Q induced disintermediation, it damaged profit margins and hence, ultimately, the solvency of the banks. Given the economic significance of commercial bank failures in the United States, it behooves us to formally examine whether this Regulation exercised enough influence to be a statistically significant contributor to the bank failure problem. If this Regulation did play a major role in inducing bank failures, then policymakers should be made aware of this fact.

The purpose of this note is to provide an initial, formal empirical investigation into whether in fact Regulation Q did influence the bank failure rate in the United States. A simple model is provided in Section II, along with a description of the data and data sources. Section III provides the results of an instrumental variables (IV) estimation and then also provides conclusions.

II. *A Simple Model*

If in fact Regulation Q did contribute to the bank failure rate, it nevertheless is likely that other factors also contributed to the bank failure rate. Based upon arguments in Barth (1991), Barth, Brumbaugh, and Litan (1992), Bradley and Jansen (1986), and Kaufman (1989), we examine also the effects of such factors as recession, the real cost of funds to commercial banks, and the Tax Reform Act of 1986 on the commercial bank failure rate.

Before any discussion of these three factors, we observe that, based upon the empirical findings in Keeley (1990), we might not expect the federal deposit insurance system to have exercised a major positive impact on the commercial bank failure rate prior to the 1980s. Keeley (1990, p. 1198) argues and empirically finds that "...anticompetitive restrictions endowed banks with market power and made banking charters valuable. The potential loss of a charter in the event of a bankruptcy created, in effect, a regulatory bankruptcy cost, which counterbalanced the incentive for excessive risk taking due to fixed-rate deposit insurance". In other words, Keeley (1990, p. 1198) finds that, for the years prior to the 1980s, "... the perverse incentives created by the federal deposit insurance system (for excessive risk taking) were countervailed by the potential loss of a valuable charter that induced banks to limit their own risk taking". By contrast, Keeley (1990, p. 1198) argues that for the more recent years, i.e.,

the 1980s, at least some of the commercial bank failures are likely "...due to a general decline in the value of bank charters associated with increased competition within the banking...industry". Thus, the advent of increased competition in the 1980s acted to make bank charters less valuable and then to make banks more susceptible to the excessive risk taking behavior associated with federal deposit insurance. Since, based on this analysis, we might well expect that federal deposit insurance probably induced significant perverse risk-taking activities in recent years but perhaps not so much in the years prior to 1980, we do not attempt in this exploratory analysis (which covers the period 1963-1989) to measure its overall effects. An analysis of this potentially very complex issue is certainly beyond the scope as well as the objectives of this exploratory note.

Regarding the possible role of recession, Kaufman (1989, p. 204) argues that since "...loan defaults increase during economic downturns, bank failures similar to the failure of other firms are more frequent in such periods". Barth (1991) and Barth, Brumbaugh, and Litan (1992) concur with Kaufman but emphasize that the 1981-82 recession was especially problematic for commercial banks and other financial institutions. Accordingly, we examine below the impact of the 1981-82 recession per se on the bank failure rate, with the expectation that this recession induced an increase in the bank failure rate.

Based upon arguments in Barth, Brumbaugh, and Litan (1992), the rising real cost of funds to commercial banks, especially in the late 1970s and early 1980s, induced an increase in the commercial bank failure rate. Such an argument is consistent with rudimentary micro-theory and the bank profit-maximizing model in Bradley and Jansen (1986).

Finally, we consider the Tax Reform Act of 1986 (hereafter simply TR). It is generally recognized that the TR had an adverse net impact upon the real estate industry (Boskin, 1988; Cebula, 1987; and Pechman, 1987). By adversely impacting upon the value of real estate, the TR also adversely impacted upon the asset values of many commercial banks. Thus, it is very likely that the TR adversely affected the profitability and solvency of at least some banking institutions. This argument is, in principle, consistent with the arguments in Barth (1991) and Barth, Brumbaugh, and Litan (1992).

Based upon the various arguments above, we now examine the following reduced-form equation:

$$(1) \quad BFRt = a + b\,RQt{-}2 + c\,RECt{-}1 + d\,COSTt{-}2 + e\,TRt{-}1 + u$$

where: $BFRt$ = the percentage of FDIC insured commercial banks that failed in year t;

a = constant term;
RQt–2 = the value of the maximum interest rate ceiling permitted under Regulation Q on passbook savings accounts in year t–2, expressed as a percent per annum;
$RECt$–1 = a binary (dummy) variable indicating whether the economy was in the 1981-82 recession during year t–1; $RECt$–1 = 1 if the economy was in the 1981-82 recession in year t–1 and
$RECt$–1 = 0 otherwise;
$COSTt$–2 = the average *real* cost of funds to commercial banks in year t–2, expressed as a percent per annum;
TRt–1 = a binary (dummy) variable indicating whether the TR was in effect during year t–1; TRt–1 = 1 if the TR was in effect in year t–1 and
TRt–1 = 0 otherwise; and
u = stochastic error term.
The data are all annual. Given data limitations, the time period studied runs from 1961-1989. The distributed lag form of the equation reflects the fact that the variables being examined are not likely to have an immediate impact upon the bank failure rate [2]. Based upon the arguments provided above, it is expected that:

$$b > 0, \quad c > 0, \quad d > 0, \quad e > 0.$$

The data for $BFRt$ were obtained from Barth, Brumbaugh, and Litan (1992); the data for variable RQt–2 were obtained from the *Federal Reserve Bulletin*: the data for computing the variable $COSTt$–2 were obtained from the research department of the Federal Reserve Bank of Atlanta and the *Economic Report of the President, 1992*; the *real* average cost of funds to commercial banks is computed by subtracting the inflation rate of the CPI from the nominal average cost of funds to the banks; finally, the variables $RECt$–1 and TRt–1 simply are generated dummy variables.

III. *Empirical Analysis*

Regarding the explanatory variables in this model, the Hausman specification test rejects the null hypothesis of exogeneity for only one case: the variable $COSTt$–2. Accordingly, this variable is treated as endogenous. In particular, we estimate equation (1) using a IV technique, with the in-

[2] Certain alternative lag structures yield similar results to those shown in equation (2) of this paper.

strument being the federal funds rate lagged three years, *fft–3*. The choice of *fft–3* is based upon the fact that *fft–3* systematically explains *COSTt–2* while being uncorrelated with the error terms in equation (1). The data for variable *fft–3* were obtained from the *Economic Report of the President, 1992.*

In addition, using the Dickey-Fuller test, we tested for nonstationarity. The results indicate that the variables in the model are stationary at the five percent level. Thus, it was unnecessary to estimate in first-difference form.

Estimating equation (1) by IV, adopting the Cochrane-Orcutt procedure to correct for first-order serial correlation, yields:

$$(2)\quad BFRt = -\underset{}{0.08} + \underset{(+3.89)}{0.23\,RQt\text{–}2} + \underset{(+2.18)}{0.38\,RECt\text{–}1} + \underset{(+2.75)}{0.08\,COSTt\text{–}2}$$

$$+ \underset{(+2.79)}{0.55\,TRt\text{–}1}, \quad DW = 1.93,\ Rho = -0.02$$

where terms in parentheses are *t*-values.

As shown in equation (2), all four of the estimated coefficients exhibit the expected signs. In addition, three of the estimated coefficients are statistically significant at the one percent level or beyond, whereas the remaining coefficient is significant at approximately the five percent level.

The results shown in equation (2) imply that the 1981-82 recession acted to raise the bank failure rate, confirming at least in principle the arguments by Barth, Brumbaugh, and Litan (1992), and Kaufman (1989). In addition, the bank failure rate appears to be an increasing function of the real cost of funds to commercial banks, as argued by Barth, Brumbaugh, and Litan (1992). Similarly, the Tax Reform Act of 1986 appears to also have raised the bank failure rate, a finding consistent in principle with arguments found in Barth (1991) and other studies.

Finally, and from the viewpoint of the objective of this paper, most importantly, there is the issue of Regulation Q. As argued by Ritter and Silber (1989), as well as by a number of other scholars on the financial sector and regulation, Regulation Q is alleged to have generated disintermediation and thusly to have adversely affected commercial bank profitability and solvency. Ultimately, if Regulation Q did exercise a significant impact on the economic status of the banks, it could well be expected to be reflected in the commercial bank failure rate. As illustrated in equation (2), Regulation Q appears in fact to have been a statistically significant contributor to the commercial bank failure rate [3]. To have increased the bank failure

[3] Alternative variations on our basic model, for example, using either a one or two period

rate clearly was not the intention of Regulation Q – quite the contrary. Neverthless, such appears to have been the net result. Fortunately, Regulation Q was terminated for the banking system as a whole as of April 1, 1986.

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lag on either the capital-to-asset ratio or the capital-to-deposit ratio, in addition to the other variables in equation (1), generate this same basic conclusion. This is illustrated in the following IV estimate, where $CAPt\text{–}1$ = the actual average capital (net worth)-to-deposit ratio (expressed as a percent) at commercial banks in year $t\text{–}1$:

$$BFRt = 0.03 + \underset{(+3.51)}{0.18\,RQt\text{–}2} + \underset{(+2.04)}{0.07\,RECt\text{–}1} + \underset{(+2.33)}{0.05\,COSTt\text{–}2}$$

$$+ \underset{(+2.57)}{0.38\,TRt\text{–}1} - \underset{(-2.64)}{0.09\,CAPt\text{–}1}, \quad DW = 2.01, \; Rho = -\,0.08$$

where we again use the Cochrane-Orcutt procedure to correct for first-order serial correlation and $fft\text{–}3$ is the instrument. As demonstrated in this estimate, the Regulation Q variable once again appears to exercise a positive and significant impact upon the bank failure rate.

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LA REGULATION Q E IL TASSO DI FALLIMENTI BANCARI NEGLI STATI UNITI

Questa nota empirica esplorativa cerca di determinare se e in qual misura la Regulation Q può aver influenzato negativamente le banche commerciali tanto da essere stata una causa significativa di fallimenti bancari. Usando variabili strumentali, questa nota esamina l'impatto della Regulation Q e di certi altri fattori (la recessione, il costo reale dei fondi per le banche commerciali, e il Tax Reform Act del 1986) sul tasso dei fallimenti bancari. I risultati dell'analisi confermano che la Regulation Q ha certamente contribuito al problema dei fallimenti bancari.

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